# Fire Safety Regulations



University of Freiburg



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# 1.) General information

These fire safety regulations contain rules for fire prevention and instructions on how to behave and what to do if a fire breaks out. The regulations listed here serve the purpose of both preventative and fire-fighting measures at the University of Freiburg. They are binding for all persons who work in or visit the buildings of the University of Freiburg or who are on the premises of the University of Freiburg.

#### The fire safety regulations are divided into three sections.

**Part A** of the fire safety regulations is a notice and is addressed to all persons who are on the premises and in the buildings of the University of Freiburg. This notice contains important rules of conduct in the event of a fire and is to be posted prominently throughout every building. All persons are obliged to comply with the measures stated in the Fire Safety Regulations.

Part A of the fire safety regulations are to be posted in every building of the University of Freiburg in a clearly visible manner in suitable places, at least once. Suitable places are, for example, building entrances, corridors and stairwells. The posting should be adapted to accommodate building-specific conditions.

**Part B** of the fire safety regulations is addressed to all persons who are not only temporarily on the premises and in the buildings of the University of Freiburg. This part contains important rules for preventing the spread of fire and smoke, for keeping escape and rescue routes clear, and other rules concerning behavior in the event of fire. Fire safety regulations Part B shall be made known to all employees and students in an appropriate form and shall be posted in central locations. All members of the University are obliged to comply with the measures stated in the fire safety regulations.

Violations of the fire safety regulations may result in disciplinary action or even criminal prosecution.

**Part C** is intended for persons who are entrusted with special fire safety tasks at the University of Freiburg.

#### 1.1 Scope

The fire safety regulations apply in all buildings, facilities and other installations of the University of Freiburg.

#### 1.2 Effective Date

The fire safety regulations come into force on **February 1, 2023**. At the same time, the fire safety regulations of June 2006 are no longer valid.

Prof. Dr. Kerstin Krieglstein, Rector

# 2.) Fire safety regulations Part A

Verhalten im Brandfall		
Ruhe bewahren!		
Brand meldenImage: Strang stran	In Sicherheit bringen Exercised Strategy Strate	
Feuer löschen EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE	<section-header><section-header><list-item><list-item><list-item></list-item></list-item></list-item></section-header></section-header>	

In case of fire Keep calm!		
Report the fire	Go to safety	
Press Fire Alarm or from any phone 112	<ul> <li>Warn endangered persons</li> <li>Take along helpless people</li> <li>Close windows and doors</li> </ul>	
Report 🤳	<ul> <li>Follow green signs to escape</li> <li>Do not use elevator</li> </ul>	
WHERE is the fire? WHAT happened? HOW MANY injured. WHO is phoning? WAIT for further questions Activate the fire alarm, if necessary Extinguish fire	<ul> <li>Do not use elevator</li> <li>Go to the assembly point</li> <li>Assess completeness</li> </ul>	
	Instruct the fire brigade	
<ul> <li>Use portable fire extinguishers</li> <li>Use several fire extinguishers simultaneously</li> <li>Remove flammable and explosive materials from danger zone, avoid any risk</li> <li>Do not endanger yourself</li> </ul>	<ul> <li>Keep the access for the fire brigade free</li> <li>The fire brigade has to be guided by persons with knowledge of location and incident.</li> <li>Give instructions about special dangers</li> </ul>	

## 3.) Fire safety regulations Part B

#### 3.1 Fire prevention

#### 3.1.1 Fire, open flames and smoking ban



Smoking is prohibited in all buildings and facilities at the University. Furthermore, the use of electronic cigarettes (e-cigarettes) is also prohibited in all buildings.

Open fires and open flames are prohibited in the buildings and on all roof terraces, balconies and courtyards This includes charcoal and gas grills, campfires, torches, fireworks or similar.

For events outside the building, a safety distance of at least 5 m from the building must be ensured; preventive fire safety measures must be taken.

Excluded from this prohibition are work involving fire hazards at designated workplaces (e.g. mechanical workshop) and work where open flames are necessary to perform the tasks set (e.g. in the laboratory).

#### 3.1.2 Hazardous materials

When using hazardous materials, the relevant laws, legal regulations, technical rules, guidelines, accident prevention regulations (UVV), etc. must be observed.

#### 3.1.3 Spontaneously combustible waste

Waste that may be spontaneously combustible (reactive chemical waste, oil-soaked rags, etc.) must be collected in suitable containers until it can be disposed of.

#### 3.1.4 Pressurized gas cyclinders

In the event of fire, pressurized gas cylinders pose considerable hazards. For storage and handling, the relevant laws, legal ordinances, technical rules, guidelines, accident prevention regulations (UVV), etc. must be observed. Both the storage and use of private liquid gas cylinders (e.g. camping grill gas) is prohibited at the University of Freiburg.

#### 3.1.5 Electrical devices

Only technically flawless and regularly tested devices may be used within the buildings at the University of Freiburg. The use of defective or unsecured devices is prohibited. This also applies to the use of private electrical devices. If property damage or personal injury occurs due to an untested/defective private electrical device, liability remains with the owner.

The use of private heating devices (e.g. fan heaters, radiators, electric blankets, etc.) is prohibited.

Electrical appliances that may pose a fire hazard due to heat transfer (e.g. kettles, hot plates, heating baths) are to be used only under supervision and on non-combustible, heat-resistant surfaces. They are to be set up in such a way that objects in their vicinity cannot ignite even in the event of excessive heating and that their immediate surroundings are free of easily combustible objects and liquids. Only heating and cooking appliances equipped with overheating protection may be used. Repairs to electrical systems and equipment may only be carried out by qualified electricians. All operated electrical appliances are to be switched off after use, if possible.

#### 3.1.6 Lithium-ion batteries

The instructions and recommendations for handling lithium-ion batteries issued by the <u>DGUV</u> (German Social Accident Insurance) and other relevant regulations must be observed. The Department of Environmental Protection is responsible for providing advice on handling, storing and charging lithium-ion batteries. (<u>brandschutz@uni-freiburg.de</u>)

#### 3.1.7 Gas burners

Shut-off adjustment devices for fuel gas are not permitted on Bunsen burners and related gas burners. Gas burners and similar consumption devices may only be connected with DVGW-tested hoses. This does not apply to cartridge burners.

Storage facilities must be available for cartridge burners so that there is no increased risk in the event of a fire.

#### 3.1.8 Hot work

Welding, burning, grinding, thawing or cutting work, heating and soldering work as well as work with hot masses may only be carried out by qualified personnel and in compliance with the prescribed protective measures. If this work is carried out outside workshops equipped for this purpose, written permission (hot work permit) is always required. This permit must be signed by the customer (responsible person) and the contractor.

#### 3.1.9 What to do in the event gas odor emerges

- 1. Do not operate electrical or electronic devices (do not use light switches, elevators, cell phones, flashlights, etc., these could cause an explosion!)
- 2. leave the area where there is a smell of gas. Inform endangered persons, if necessary arrange for evacuation of building.
- 3. alert the fire department (tel. 112). 4.
- 4. ventilation measures can be taken until the fire department arrives, taking into account the need for self-protection.

#### 3.2 The spread of smoke and fire

#### 3.2.1 Smoke barriers



Smoke protection doors separate individual smoke/fire compartments from each other so that in the event of a fire not all escape routes can become smoky at the same time and sufficient time remains for evacuation measures. Smoke protection doors and fire-retardant doors equipped with door barriers, which are intended to ensure that the doors are permanently closed, must not be held open at any time in an inadmissible manner, e.g. by means of wedges, cords, objects, etc.

In the case of smoke protection doors that are equipped with approved hold-open/locking devices and thus close automatically in the event of smoke from a fire, care must be taken to ensure that no objects are placed in the closing area of the door wings.

#### 3.2.2 Fire load

The fire load, i.e. the quantity of all combustible materials, must be kept as low as possible in all workrooms. Technical rooms must be kept completely free of additional fire loads.

#### 3.2.3 Smoke and heat extraction

In many stairwells, devices are installed that fulfill the function of smoke and heat extraction (SHE). These can be operated manually in the event of a fire or are opened automatically by a fire detector or trigger mechanism.

#### 3.3 Escape and emergency route



Escape routes and emergency exits must be clearly marked and kept clear at all times. Doors along escape and emergency routes must not be locked or obstructed. They must be easy to open from the inside at all times. Safety signs must not be covered or obstructed. No combustible materials (packaging materials, cardboard boxes, etc.) may be stored in escape and emergency routes.

Employees must be aware of the escape and emergency routes. These are to be taken from the posted escape and rescue plan for the respective building.

Areas for the fire department (access roads, installation areas, hydrants, etc.) in the outdoor area must be kept clear of vehicles, waste containers and the like at all times.

Illegally parked vehicles will be towed for a fee.

#### 3.4 Fire alarm and fire extinguishing equipment



Fire alarm equipment (fire, smoke and heat detectors, telephone, etc.), fire extinguishing equipment (fire extinguishers, wall hydrants, emergency showers, fire blankets, etc.) and first aid equipment must be freely accessible at all times. The locations of the fire alarm, fire extinguishing and first aid facilities are to be taken from the posted escape and rescue plans.

Employees are obliged to familiarise themselves with the locations and operation of fire alarm, fire protection and fire extinguishing equipment at the workplace.

The fire brigade or rescue services can be alerted from all telephones by dialling 112.

Many buildings are equipped with a fire alarm system that immediately alerts the fire brigade via the fire detectors or by pressing the push-button detectors.

#### 3.5 What to do in case of fire

When a fire is detected:

- Please remain calm!
- Avoid rash actions, do not panic.

#### 3.5.1 Report the fire

If a fire breaks out or the smell of fire is detected, the fire department must be alerted immediately. This can be done via telephone 112 and, if necessary, via a **red** push-button alarm.

The house alarm (blue manual release) only leads to an evacuation alarm within the house, the alarm is not passed on to the fire department. The fire must therefore still be reported additionally by telephone.



#### Emergency call by phone: 2 112

- Where is the fire? Street name, house number, city area, building, floor, room number
- What happened? What is burning? Type of fire, cause of fire
- How many people have been injured? How big is the fire? Scope of the fire
- What are the particular hazards? More details (i.e. through hazardous materials, pressurized gas)
- Who is calling?
- Wait until the control station ends the call. Further questions!

#### 3.5.2 Heed alarm signals and instructions

When the alarm signal sounds, all persons must immediately move outdoors and go to the meeting point.

Instructions from the fire department must be followed.

The building may only be re-entered after the fire department has given the green light.

#### 3.5.3 Get to safety



#### • Save lives before things!

- Warn endangered persons.
- Leave the danger area immediately via the marked escape routes.
- If the escape route is impassable or smoky, make yourself clearly visible at the nearest window.
- Leave smoky rooms in a stooped position.
- Take injured persons or persons in need of help with you.
- Do not use elevators in case of fire.
- Go to the meeting point and determine whether everyone is present in order to be able to determine whether there are still people in the building.

#### 3.6 Attempts to extinguish the fire

#### 3.6.1 Extinguish initial fire

#### Do not take risks!

Extinguish the initial fire immediately. Call for additional assistance. If possible, use several fire extinguishers at the same time.

Use a suitable extinguisher to extinguish electrical systems (up to 1000 V). Keep a safety distance of 1 m.

Do not use CO2 fire extinguishers for metal fires! Only use powder extinguishers with metal fire extinguishing powder (fire class D).

Always extinguish fires of liquefied and compressed gases escaping from pressurized gas cylinders by closing the cylinder valves (interrupting the gas supply). If this immediate measure cannot be carried out safely (e.g. in the case of fires in the area of the cylinder valves), leave the hazardous area and alert the fire department.

Caution: Pressurized gas cylinders that have been exposed to fire must be taken out of service and marked accordingly.

Textile fires are to be extinguished with fire extinguishers or emergency showers. In case of fire, use the first fire extinguisher available.

#### 3.6.2 Fire classes



Fires of solid substances, mainly of an organic nature, which normally burn with the formation of flames and embers e.g. wood, paper, coal, straw, textiles, car tires



Fires of liquid substances or substances that become liquid e.g. gasoline, oils, greases, varnishes, resins, waxes, tar, ether, alcohols, plastics



Gas fires e.g. methane, propane, hydrogen, acetylene, town gas



Metal fires e.g. aluminum, magnesium, lithium, sodium, potassium and their alloys

#### 3.6.3 Fire extinguishers

All fire extinguishers and other fire extinguishing equipment (e.g. emergency showers) must be kept in proper and functional condition. The person responsible for the area must ensure this. Defects must be reported immediately to the Safety Department in the Office of Safety, Environment and Sustainability.

Emptied or used fire extinguishers must be refilled immediately. The Office of Safety, Environment and Sustainability (brandschutz@uni-freiburg.de) must be kept informed.

#### 3.6.4 Fire drills



A sufficient number of employees must be instructed in the use of fire extinguishers, e.g. through regular participation in the practical fire extinguishing exercises offered by the Office of Safety, Environment and Sustainability. For further information, please contact the Office of Safety, Environment and Sustainability at <u>brandschutz@uni-freiburg.de</u>.

#### 3.6.5 Special rules of conduct

In laboratories with special hazards (e.g. radioactive substances, hazardous substances, biological substances with hazard potential), special fire protection requirements apply in some cases. These must be observed separately.

In buildings with a CO2 extinguishing system, there is an acute danger to life when the alarm is triggered (horn). The building must be evacuated immediately.

## 4.) Fire safety regulations Part C

#### 4.1 Areas of responsibility

Buildings and rooms used by the University of Freiburg are either owned by the State of Baden-Württemberg - represented by the government office Vermögen und Bau Baden-Württemberg, Amt Freiburg - or rented. The state-owned buildings or rooms are transferred to the University of Freiburg for use (operator).

#### 4.2 Fire prevention

#### 4.2.1 Building fire protection

All fire protection measures taken in connection with the construction or modification of structural facilities are included in building fire protection, e.g.:

- the external access to the building with fire-fighting water,
- the installation and movement areas for the fire department,
- the formation of fire compartments, e.g. by fire walls, and
- the dimensioning or standard-compliant construction of load-bearing and room-enclosing structures, e.g. to protect areas with a high fire risk.

The main criteria include:

- the fire rating of building materials
- the fire resistance of building components
- the planning and construction of sufficient escape and emergency routes for people and animals

The owner (Vermögen und Bau Baden-Württemberg or the respective landlord) is responsible for building fire protection within the buildings used by the University of Freiburg.

#### 4.2.2 Technical fire protection

Technical fire protection is divided into two sections:

- Fire protection in technical building equipment: Structural (shafts, suspended ceilings with fire resistance) or system-related (smoke aspiration systems, fire dampers) fire protection measures protect the complex technical systems in buildings from fire outbreaks or damage during fires.
- Fire protection through technical equipment and installations: Fire protection measures implemented by technical systems are part of system-related fire prevention: These can be preventive measures (e.g. fire detection, alarming) as well as operational

measures (e.g. fire prevention, fire extinguishing, limitation of fire spread, mechanical smoke extraction).

The main equipment for this type of fire protection include:

- Fire alarm systems according to DIN 14675 Fire alarm systems installation and operation
- fire extinguishing systems
- natural and mechanical smoke extraction systems according to DIN 18232 smoke and heat control
- extinguishing water retention systems

Technical systems can be used to prevent or minimize unwanted restrictions on use due to structural fire protection measures. Fire doors or gates, for example, are held open by magnets that are monitored by smoke detectors. They then close automatically only in the event of a fire and do not interfere with normal operations.

Department 4 and the Office of Safety, Environment and Sustainability are responsible for the regular inspection and maintenance of the technical fire protection systems within the state-owned buildings used by the University.

Division of responsibilities:

Department 4:

- fire alarm systems
- fire dampers
- fire doors with hold-open system
- fire extinguishing systems (sprinkler, CO2 extinguishing system)
- fire doors
- power-operated doors and gates
- Smoke and heat extraction systems (RWA)

Office of Safety, Environment and Sustainability:

Inspection and maintenance of:

- the fire extinguishers
- the risers

Depending on the provisions of the lease agreement in rented buildings and rooms, the fire extinguishers are checked either by the Office of Safety, Environment and Sustainability or by the landlord.

#### 4.2.3 Organizational fire protection

Organizational fire protection includes all administrative and organizational measures that help prevent fires and explosions, limit their spread in the event of a fire, and encourage people to behave in a fire-safe manner. This concerns regular teaching, research and administrative operations and the area of events.

The responsibility for organizational fire protection lies with the University.

According to the "General Administrative Regulation of the University of Freiburg on Responsibility for Occupational Safety, Health and Environmental Protection", responsibilities are formally assigned to members of the university with management functions:

- heads of scientific institutions that serve to carry out research, teaching and studies
- professors and university lecturers
- heads of teaching units
- Heads of operational units

The persons responsible must take all measures and precautions in their respective areas which are specifically required by the legal regulations and other rules and regulations concerning occupational safety, health and environmental protection or which are implied by generally formulated protection goals.

This also includes tasks of organizational fire protection. For example, the safety-compliant condition of operational equipment and the safety-compliant use of the materials employed must be ensured, and buildings, parts of buildings, rooms and equipment provided must be used for their intended purpose and in a safety-compliant manner. Explicit mention is made here, for example, of keeping escape routes clear and fire compartment doors closed. Employees must also be designated as fire protection assistants. Training is provided by the central fire protection officer.

According to the above-mentioned regulation, the Chancellor has overall organizational responsibility. He/she is responsible for the supervision and control of the execution for the respective area. She/he is supported in this by the officers of the respective departments required by law.

The central full-time fire protection officer at the Office of Safety, Environment and Sustainability is available as a contact person for all questions relating to organizational fire protection.

Tasks of the fire protection officer(s):

- Development of concepts for organizational fire protection and their implementation
- Monitoring compliance with fire protection regulations
- Cooperation with the responsible departments for technical and structural fire protection
- Preparation of fire protection regulations and alarm plans
- Training and appointment of fire protection assistants
- Organization of evacuation drills
- Instruction on correct behavior in case of fire
- Participation in fire prevention inspections and inspections incl. follow-up work
- Organization of maintenance and testing of fire extinguishing equipment
- Advice and assistance in determining fire and explosion hazards
- Consultation and control at special events
- Organization of testing of electrical equipment

• Determination of fire protection measures in the context of external company assignments.

A separate fire protection officer has been appointed for the staff and rooms that are the responsibility of the Technical Facility Management (D4.2).

#### Coordination

In the event of an overlap of responsibilities for structural, equipment-related or organizational fire protection, the respective areas must coordinate their efforts.

#### Notification and alarm

Alarm in the case of fire

	Telephone
Fire department	112
Police department	110
Management Administration Contact person of the facilities and institutes	see building-specific alarm lists

#### Alarm lists

Alarm lists have been prepared for the buildings at the University of Freiburg, listing the respective contact persons of the institutes and facilities. The alarm lists also list the standby numbers of the Technical Facilities Management (TGM).

#### Additional phone numbers

Service disruption Technical Facilities Management (TGM)Mon-Thurs:7:30 am - 3:30 pmFri:7:30 am - 12:00 pmOutside of these hoursTel: 0167-203-2266

#### 4.3 Safety measures for persons and property

- An evacuation alarm automatically results in an immediate interruption of operations in the work areas. In the event of an evacuation alarm, all persons must leave the building and go to the nearest assembly point. The fire protection assistants support the employees during evacuation and ensure that all persons leave the building. At the assembly points, the fire protection assistants will provide support.
- After evacuation, assist persons unfamiliar with the area, persons with disabilities, and/or injured persons.
- Salvage of important work documents as well as material assets is only permissible in consultation with the fire department's operations management if there is no danger to persons in the process.

• Special technical equipment, e.g. supply lines, electrical systems, are to be put out of operation or brought into a safe operating condition by qualified personnel.

#### 4.4 Fire extinguishing measures

Only attempt to extinguish initial fires. Personal protection is the primary concern. If possible, only allow several people to attempt to extinguish the fire at the same time.

#### 4.5 Preparation for the fire department

- People are to be moved far enough away from the fire site and from the immediate vicinity so that firefighters are not hindered.
- Keep access routes clear for firefighters. All gates, barriers and other barriers must be open, and all roadways and access routes must be clear.
- Expect the fire department and instruct them immediately.
- Inform the fire department of any special hazards. Important are e.g. information about the storage of fire and explosive hazardous substances, pressurized gas cylinders, radioactive substances, infectious substances.

#### 4.6 Follow-up

Securing of the fire site (accident hazards, traffic safety, weather conditions and theft) is not to be carried out until the fire department has given the go-ahead. Re-entry into the rooms is only permitted after release by the fire department. Electrical systems and equipment that may have been damaged by the fire must be inspected by a qualified electrician before being put back into service.

If fire extinguishers have been used, the Office of Safety, Environment and Sustainability is to be informed so that used fire extinguishers (fire extinguishers) can be refilled or newly procured.

# 5.) Closing provisions

Any and all fires must be reported immediately to the Office of Safety, Environment and Sustainability. Fire scenes may only be re-entered after clearance by the fire department. Fire extinguishing equipment must be made ready for use again without delay.

These fire protection regulations are an internal set of university rules and do not release students from the obligation to observe and comply with other occupational safety regulations and general rules of technology. The fire safety regulations may be supplemented as necessary for special areas.