

1 Preamble:

At the Alfred Wegener Institute, the Board of Directors is responsible for safety in the workplace. Beyond this, within the scope of their duties, every employee contributes significantly to the safety in their area and to a culture of safety. Workplace safety and laboratory organisation are prerequisites for the collection of valid data, and as such play an essential role in the success of research at the Alfred Wegener Institute. In these laboratory regulations, the Board of Directors defines the duties and responsibilities of the various groups and departments to ensure the safe operation of the laboratories and other research rooms. In addition, for certain responsibilities, e.g. in the area of radiation protection, genetic engineering etc. separate statutory regulations are to be observed. These laboratory regulations constitute part of the basic laboratory induction training.

2 Scope

Laboratories are workplaces in which professionals and trained staff conduct experiments to investigate or utilise scientific processes. The terms laboratory and lab are used here interchangeably, and include chemical, physical medical, microbiological and genetic engineering laboratories. In such laboratories methods from other fields, e.g. microbiology, may also be employed. For the risks pertaining to such methods, the respective regulations should be observed. It will frequently be the case that additional risks – such as electrical, mechanical or those due to biological material – will need to be assessed and protective measures taken.

The criteria defining a room at the AWI as a lab or hazardous materials store are set down for the AWI in the following:

2.1 Laboratory

A room that, due to its equipment and / or the materials used, presents chemical and / or physical and / or biological hazards. These can also include laboratory washing up and weighing rooms.

Examples:

- Chemicals; biological substances (according to biological substances regulations); genetically modified organisms; decanting, using, investigating, weighing hazardous materials. Use of radiation-emitting machines or self-generated optical or radioactive radiation.
- Use or generation of magnetic fields that are significantly stronger than Earth's magnetic fields.
- Use of electric currents or accelerated atomic / subatomic particles in investigations.
- Generation of high temperatures for handling samples or as part of investigations.

2.2 Hazardous materials store

A room in which hazardous chemical substances according to REACH / GHS, or chemicals are passively stored or stored for transport purposes.

2.3 Other research rooms

Research rooms are rooms that are not classified as laboratories or hazardous materials stores and in which research activities are performed. These include:

Freezer rooms, dry storage, constant-temperature rooms and aquariums in which cultures and organisms, in as far as they are not subject to biological substances regulations or genetic engineering legislation, are cultivated and from which samples are taken.

Constant-temperature rooms, e.g. for processing ice cores, sediment cores etc.

These laboratory regulations apply for other research rooms only where their application is practical and reasonable.

3 Structural requirements

The Board of Directors is responsible for ensuring that the structural requirements for safe laboratory operation are met. The duties of the various departments are as follows:

3.1 Engineering and Environment Department

For the Bremerhaven site, the Board of Directors delegates responsibility for the maintenance of in-house equipment such as ventilation and fume hoods and compliance with DGUV regulation 3 to the Engineering and Environment Department. The department monitors and coordinates

- the employment of external firms to maintain and repair equipment
- the timely maintenance of safety relevant equipment
- cleaning companies.

And coordinates

- the timely checking of mobile electrical equipment. Checks are the responsibility of the individual laboratory safety officers.

It also informs the laboratory heads about necessary repairs and the use of external firms in the respective laboratory, and in this context, together with the external firms and laboratory heads, conducts a risk assessment

For other sites, the above delegation applies to the location management at that site.

3.2 Construction Department

The Construction Department is responsible for compliance with statutory legislation during construction and renovation of the laboratories and for ensuring the latest standards are met. It coordinates and arranges for construction measures stipulated by the Board of Directors and in consultation with the users.

4 Section heads

The section heads are responsible for the discipline of their employees and as such also for safety, which means that they are safety officers. To ensure that laboratories operate safely they must appoint a sufficient number of laboratory heads. If no laboratory head is appointed in accordance with the regulations, the section head is responsible for the tasks of the laboratory head.

The section head must provide the laboratory head with the necessary financial means for the safe operation of the laboratory, and must check to ensure that the laboratory is operated safely.

If, due to circumstances (e.g. complex equipment, large number of supply media that could fail), and despite all safety measures, dangerous situations cannot be ruled out, the section head must draw up an emergency plan for the most likely scenarios. This must state how the situation can be controlled without risk to personal safety. If the latter is not possible, protection of people takes priority over protection of objects, and as a last resort, equipment, or similar, must be abandoned. Examples of emergencies include, magnet accidents in MRI; spillages of large quantities hazardous substances such as an upset bottle of hydrofluoric acid in the laboratory; a faulty power supply, which, for example, can electrify aquarium tanks.

The section heads name a sufficient number of first aiders in their area of responsibility, which must be at least 10% of the employees and research students etc. in the section. (E.g. at least one per corridor section). A first aider should also be present on expeditions. The training must be repeated after no more than two years. The Health and Safety Office organises the in-house training.

5 Laboratory head

Each laboratory is led by a laboratory head, who is appointed in writing by the respective section or department head.

To ensure normal operation, a sufficient number of laboratory heads must be appointed, and these can deputise for each other. The stand-in must be named in writing. The duties of the laboratory head cannot be transferred to another group of people. Laboratory heads must have a scientific or technical qualification from a university or higher education institute and several years' relevant laboratory experience.

Laboratory heads must complete training on health and safety in the workplace responsibilities (the framework and scope of the training is still to be defined by the Health and Safety Office) within six months of their appointment. A refresher course must be attended at least every five years. If this is not the case, or if for other reasons a laboratory head is not appointed or is absent, the section head is responsible for their duties. If said section head does not have the necessary technical qualifications or is absent the laboratory is not permitted to operate.

The appointment is organised by the Health and Safety Office (Contact: arbeitsschutz@awi.de), who will be notified of a planned appointment by the section or department head. The section or department head must immediately inform the Health and Safety Office of any changes in the laboratory management.

5.1 Duties of the laboratory head

The laboratory head is responsible for the organisation and exemplary execution of correct laboratory procedures. He / she has the authority to issue instructions to all persons, including colleagues from other sections and employees from external firms, in their area of responsibility, and can exclude individuals from the laboratory, e.g. if safety regulations are not observed.

Duties include

- responsibility for compliance with the relevant safety regulations, which include preparing general safety instructions, and further substance-group- or task-specific safety instructions and training as well as laboratory guidelines, statutory regulations and fire prevention regulations. The HSE Unit provides an overview of statutory regulations and AWI regulations in the intranet and informs the sections of any changes.
- providing a safety file (with safety instructions, safety information sheets, relevant safety regulations etc.) in the laboratory or in digital form in the AWI intranet.
- providing workplace- and task-specific verbal training to employees before they take on their duties and then at least once per year, every six months for young people under the age of 18. Participation must be confirmed with a signature(s).
- supervisors are responsible for filing confirmation, and it need not be sent to the Health and Safety Office. However, completed briefings should be entered in the training register. Note: Entry in the training register does not replace the participant's signed confirmation!
- informing employees of the required safety measure and instructions in the event of fires and accidents. This also applies to those who are not directly employed by the AWI, including guest scientists, interns, students and external service providers (external firms)

- observing employment restrictions for certain members of staff e.g. young people and expectant mothers.

Women must be informed of the risks of the hazardous substances / radiation used for embryonic development. The effects of teratogenic substances can be serious, particularly in the early weeks of pregnancy.

Therefore, women must inform the laboratory head of a pregnancy as soon as possible, so that a hazard assessment can be conducted and appropriate safety measures implemented. In cases of employment prohibition, the Board of Directors can approve support through temporary staff.

The medical officer, the women's representative and staff council can be consulted for advice. The information will be treated with absolute confidentiality. Failure to comply does not have any legal consequences.

6 Person responsible for the hazardous substances store / rooms used by more than one laboratory

Every hazardous substance store/ room used by more than one laboratory is run by a single responsible person. The departments involved agree on who should be appointed to this function. If agreement cannot be reached, the Board of Directors decides. The HSE Unit is informed of the decision and organises the appointment. The sections involved are specified at this stage. The appointed person then has complete authority over the respective store / room used by more than one laboratory.

To ensure operation of the service, a deputy must be appointed. The duties of the person responsible for the hazardous substance store / room used by more than one laboratory cannot be transferred to another person (e.g. technical assistants). The qualifications and training requirements are the same as those for the position of laboratory head (see above). For deputies, the same regulations and conditions apply as for laboratory heads.

The head of the section from which the person the hazardous substance store / room used by more than one laboratory comes takes on the tasks on behalf of all the sections involved.

If the section responsible for an area wishes to assign tasks to a person from a different section, the assignment of the task must be undertaken by the section responsible and the head of the other section must give their signed consent.

6.1 Duties of the person responsible for the hazardous substances store / rooms used by more than one laboratory

The duties of the person responsible for the hazardous substances store are identical to those of the laboratory head. Here the term laboratory is to be replaced by hazardous substances store

7 Medical Officer

Together with the medical officer, the Office for Health and Safety provides a checklist of the medical checkups that must be offered.

For those working with ionising, toxic and / or CMR substances, screening tests are mandatory.

8 Safety Officer

The section head must ensure that his / her section has a sufficient number of safety officers, who may not hold supervisory positions. Safety officers can only take on their duties when they have are professionally familiar with the area of responsibility. The number of safety officers is to be adjusted appropriately. The position of safety officer cannot be mandated, and is undertaken on a voluntary basis. As such it requires the candidate's acceptance. The HSE Unit must be notified of candidates, who are the appointed by the Board of Directors.

8.1 Duties of the safety officer

Safety officers have no authority, but instead their role is to advise their supervisors and to see that operating procedures are followed. This means that safety officers cannot be made civilly or criminally liable, and must not be disadvantaged as a result of fulfilling their duties. The Board of Directors / supervisors are legally responsible for health and safety in the workplace.

Safety officers work together with the health and safety specialist and the occupational physician to support the Board of Directors in preventing accidents in the workplace, occupational diseases and workplace-associated health risks, e.g. by taking part in regular inspections and in accident investigations. This could mean safety officers and their supervisors agreeing on regular inspections of their area with varying focuses, which are then carried out and documented by the safety officer.

9 Employees

Every employee has a large degree of personal responsibility for safe working in laboratories. This includes, among other things, gaining qualifications, participation in training courses, careful and proper use of materials hazardous substances, as well as observation of operating procedures and proper use of protective equipment. In the case of faults of any kind or defective safety equipment (e.g. ventilation, fume hoods) work must be stopped immediately, colleagues warned and the responsible laboratory head must be informed and the equipment shut down without delay.

10 Health and Safety Office

The Health and Safety Office is the central point of contact regarding workplace safety in laboratories and research rooms at the Alfred Wegener Institute. It advises the Board of Directors on all matters concerning workplace health and safety.

It advises and supports the laboratory heads and section heads in the execution of their duties, including regulations and sample operating procedures, sample hazard assessments and general advice.

It provides appointment certificates for laboratory heads and keeps a central register of all laboratory heads, safety officers and first aiders.

It monitors laboratory head's compliance with training obligations and arranges training, or where necessary in-house training, for laboratory heads.

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