



# General Health & Safety (H&S) Refresher Training

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Sicherheit und Umweltschutz – D5  
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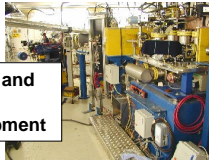
D 5 Sicherheit und  
Umweltschutz

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- First Aid

Design, construction and  
purchase of safe  
installations and equipment



Implementing safe  
working procedures



Qualified and  
trained employees  
working safely



Risk assessment and  
determination of protective  
measures for remaining risks

... to avoid accidents and occupational diseases

### As an employer, DESY has to

- Identify the **H&S hazards** associated with the activities performed,
- Implement appropriate **H&S measures** to protect employees against harmful impacts,
- Implement adequate **organisational measures** and provide sufficient resources for H&S measures in line with the DESY operations,
- Provide the required **instructions** and orders to employees and verify **adherence** to these orders,
- **Close down** installations if they represent an **immediate hazard**.

(according to the Accident Prevention Regulation GUV-V A1 and the Labour Protection Act)



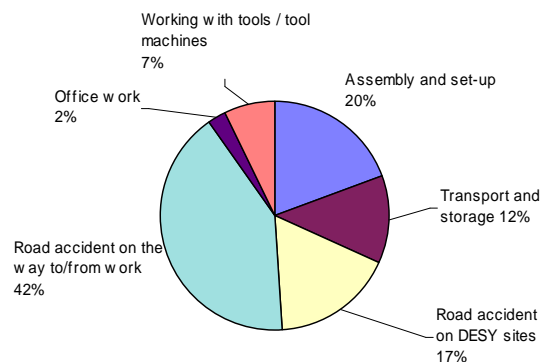
### As an employee, you have to

- Support all H&S measures,
- Adhere to the instructions of your supervisors related to the prevention of accidents,
- Must **not** use **damaged equipment** – correct any damages or inform your supervisor if you do not have the qualification to do it yourself
- Use all provided machines, devices, tools, substances, transport and other equipment **in line with their intended use**.
- Use **technical** and **personal protective equipment** in line with its intended use.

(according to the Accident Prevention Regulation GUV-V A1 and the Labour Protection Act)



### Accidents 2005 by activity



Accidents at DESY in Hamburg	2004	2005	2006 (P)
Reported to D5 and V2 by accident notification ( <i>Unfallanzeige</i> )	35	41	35
- Of which reportable accidents (> 3 lost days) at work	14	9	12
- Of which reportable road accidents to/from work (> 3 lost days)	4	11	5



In some cases very simple...

In some cases more  
demanding...



## Specific Topics

### General Hazards and Safety Rules at DESY

Coordination of Activities

Installation and Dismantling

Internal Transport

## General Hazards

Observe warning signs and access restrictions



**Danger –  
Electrical Equipment**

Activities in areas outside your group's responsibility have to be  
**announced** to **the responsible person(s)** of the affected group(s).



In some areas at DESY you may come into contact with **electro-magnetic fields** caused by strong magnets, power supplies or radio frequency installations.

Areas where such fields may occur are marked like this:



Warning – Electro-Magnetic Field



Warning - Magnetic Field

Access to these areas is prohibited for persons with pacemakers!



Warning – Laser Beam

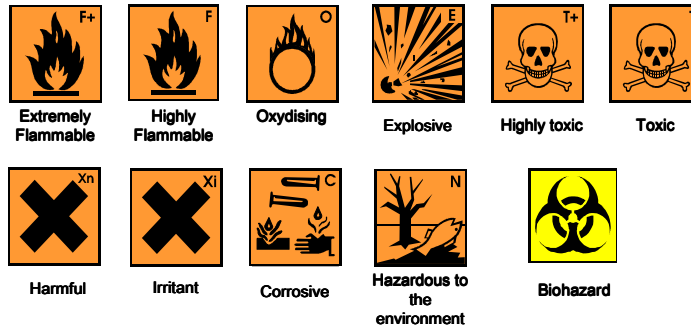
In areas marked with this sign there may be an elevated hazard from **laser beams**.

DESY has appointed Laser Protection Officers (*Laserschutzbeauftragte*) for the safe operation of lasers. They provide further guidance in case of questions.

## Dangerous Substances



Dangerous substances are labelled according to their hazard characteristics:



## Dangerous Substances



- Containers, vessels, pipes etc. have to be **labelled** unambiguously and permanently.
- After transferring dangerous substances into **other containers**, these also have to be **labelled**.
- Never use food or beverage containers for storing dangerous substances.



Observe the **Material Safety Data Sheets** and **Operational Instructions** when using dangerous substances!

Risks associated with the handling of cryogenic gases include

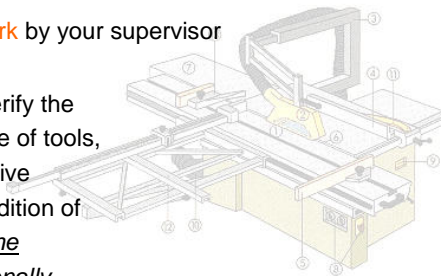
- Cold burns caused by direct (skin) contact with cryogenic gases
- Oxygen enrichment
- Asphyxiation (in enclosed rooms) due to sudden boiling (or leakage) of cryogenic gases

Therefore, the use of cryogenic gases is only permitted for specifically trained persons.



For working at **tool machines**, you have to

- have the required **qualification** and **training** for working safely at the specific machine
- be **ordered to perform the work** by your supervisor
- prior to commencing work, verify the **safe operating condition** (state of tools, presence and state of protective equipment, maintenance condition of the machine) – especially if the machine is only used occasionally
- use **appropriate tools** and all required **protective installations** in line with the intended work





## Specific Topics

General Hazards and Safety Rules at DESY

### Coordination of Activities

Installation and Dismantling

Internal Transport

## Coordination of Activities

If **several groups** are working in **one area**, the activities must be coordinated to avoid mutual hazards associated with the tasks (appoint a **responsible individual** or **coordinator**).

In cooperation with all parties involved, the coordinator plans the workflow, defines **safety precautions**, and organises the **supervision of subcontractors!**

(...with respect to avoiding mutual hazards)



Scaffolding beam removed after blocking access for a large component

- Ensure work of subcontractors is appropriately supervised / inspected
- Coordinate the activities of all parties involved in the work

Examples for activities of several groups or parties in one area at DESY:

- Maintenance day or shutdown in the DESY [accelerators](#)
- Installation work in [new or extended buildings](#) (interior finishing, installation of cranes, electrical equipment, supply facilities, machinery...)
- [Comprehensive refurbishing](#) of existing buildings
- Activities of several groups in [common areas](#), especially when involving frequent transport activities or frequently changing set-ups

For civil construction works, German H&S regulations require additional safety-related coordination measures.

- **Flammable gases** are present in several areas at DESY, e.g. in the hall „Hallenumbau“.
- Work in such areas has to be coordinated in detail with the **Responsible Person**.



Warning – explosive  
atmosphere



Smoking prohibited



Fire, open flame and  
smoking prohibited

- The release of **flammable substances** may result in the generation of **explosible atmosphere**.
- Flammable substances (e.g. **cleaners**, **adhesives**) must not be used near activities generating sparks or flames (such as **welding**).



Explosion during cutting of empty oil drums with an abrasive cutter

- Incorrect information about actual contents (solvent!)
- Insufficient planning of the work (drums not appropriately cleaned)

Source: BG Chemie

## Specific Topics

General Hazards and Safety Rules at DESY

Coordination of Activities

**Installation and Dismantling**

Internal Transport

## Installation and Dismantling

The dismantling of installations may only commence after

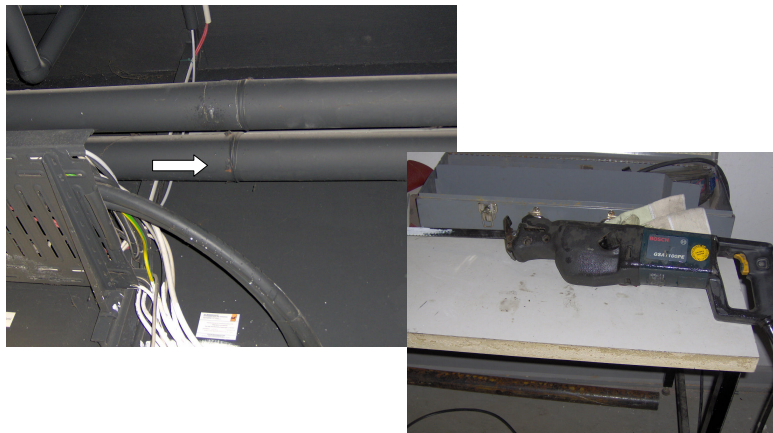
- Installations / equipment have been **disconnected** from all energy supplies, and unauthorised, accidental or unexpected **re-start is effectively prevented**
- Hazardous movements due to **residual energy** are effectively prevented

hydraulic or pneumatic energy  
potential energy (gravity)  
kinetic energy (flywheels)  
electrical energy  
springs

- **Dangerous substances, gases** etc. have been **removed** or the accidental release of such substances is effectively prevented

When planning the work, consider potential additional hazards and determine precautionary measures

- Are hazardous compounds generated or released during the activity (such as dust, artificial mineral fibres, welding fumes)?
  - Use protective systems such as air extraction or dust collection systems, use PPE if required
  - Consider hazards for colleagues working nearby, split the activities
- Are there any other hazards (e.g. water, damp environments)?



Overhead cutting of an unused water pipe with an electrical saw

- Assess hazards prior to commencing work and plan work accordingly (here: hazard generated from presence of water / overhead cutting / electrical tool)!



Installation and dismantling work does often include activities on elevated platforms with **risk of falling**. Serious accidents may occur even at a falling height of 1 m.

- Where possible, use **fixed installations** with fall prevention for performing such work (scaffolding, movable scaffolding, lifting platforms).
- Use ladders only for **work of short duration** and up to a maximum height of 7 m. Observe correct placing, maximum loads and correct use (instructions for use can be found on the ladder).
- Consider **mutual hazards** for persons working in elevated areas and below when planning the work!

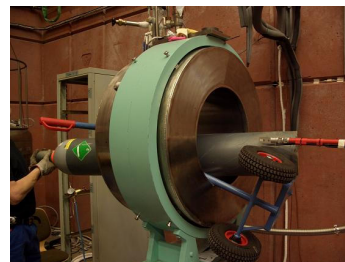


Plan the work in a way which ensures that transport, dismantling and installation near strong magnetic fields are avoided if possible.



Warning -  
magnetic field

Visualise the danger zones!





## Specific Topics

General Hazards

Coordination of Activities

Installation and Dismantling

**Internal Transport**





- Prior to commencing work, consider all transport activities required up to the **final position** of the equipment.
- Consider **maximum permitted loads** (including floor loads)!
- Select the places for (intermediate) storage of components, containers, vehicles etc. in a way which **does not affect access (and emergency escape!) routes** and transport activities.
- **Optimise** transport routes - try to keep them short.



- Design lifting equipment and beams with **specific consideration of the components and parts** to be lifted.



- Beams manufactured by DESY are subject to the EU **Machinery Directive** (a risk assessment and conformity declaration / CE label are required).





### If you or one of your colleagues have an accident at DESY...

- Evacuate the injured person from the hazard area and secure the area without creating a hazard for yourself.
- Report the accident to doorman:

**Tel. 7222**

Doorman will order an ambulance and escort it to the place of the accident.

- Provide first aid for life-threatening injuries. There are several first aid helpers in your group who have been trained in first aid measures.



## Our occupational liability insurance...

**Landesunfallkasse Hamburg  
(LUK)**

As a DESY employee, you are insured through LUK during work, on the direct route to or from work and on route between the different DESY sites.



### What else has to be done after an accident?

- **Report** each accident to your **supervisor** immediately!
- An **accident notification** is required if the accident results in more than three days absence from work, or in treatment by an external doctor or in a hospital.
- Enter all **minor injuries** in the first aid logbook. This is important to demonstrate that the accident occurred during work – during this time, you are insured through the Occupational Liability Insurance LUK.
- If you have taken significant amounts of **first-aid material** from the first aid boxes, or if you notice that something is missing, ensure that the missing material is **replaced** (contact Mr. Schöneich).



## At your workplace, you are the expert!

- Are there any **hazards** associated with your workplace, your working area or the way to or from work?
- What can be done to **mitigate** these hazards?
- At your workplace or within your working area, are there any possibilities to improve the **protection of the environment**?
- How can this be done?



**Thank you for your attention!**