



# **Safety Briefing in the technical areas** of

power stations, pipe bridges, underground pipeline construction, roofs, for partner companies and non-company employees

Boehringer Ingelheim Pharma GmbH & Co KG  
Location: Ingelheim

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# Prerequisites for entry into the technical areas

The contractor must train all their employees and those of its subcontractors in the technical areas with the help of this presentation before starting work/entry into the technical areas. The relevant training documents must be completed.

**The instruction in the technical areas is valid for the current calendar year.**

Access to the technical areas is only permitted to external Boehringer Ingelheim employees and partner company employees after prior registration. The respective contact persons for the technical and energy centers can be found on the notice board in front of the respective entrance doors.

Depending on the area and building, there are different procedures for logging in/ out (e.g. by entering a log-in/log-out list in the entrance area or issuing an access authorization via the plant ID card). For more information, please contact your Boehringer Ingelheim contact person.

The execution of the planned activities as well as the planned working hours must be discussed with the contact person before starting work. Even in the case of work lasting several days, a brief daily arrangement must be made.

# Dress code



- **Standard working clothes** should provide general protection against contamination and therefore cover as much skin as possible
- **Long work trousers** in all technical and energy centres
  - In addition, **long-sleeved work jackets** in the technical and energy centers of chemical production and in WWTP, whereby rolling up the sleeves is not permitted. Here, in an **emergency**, it must be possible to remove clothing as quickly as possible without having to pull contaminated clothing over the head.
  - **Long-sleeved outerwear** is recommended in suspended ceilings.
  - **Long hair** must be tied up.

# Entering technical and energy control centers

When walking in the technical areas, beware of impact sources at head height and trip hazards.

If you should encounter **dust deposits**, do not inhale and do not make direct eye or skin contact. **Immediately report to the Boehringer Ingelheim contact person!**

The following PPE must always be used when entering technical and energy centres:  
**Dischargeable safety shoes (protection level S3).**

In case of parallel work on different levels, an additional safety helmet/ bump cap.

Refer to the **permit or release certification** or the **on-site signage** for further guidance on protective measures.



# Suspended ceilings – Confined spaces



Some suspended ceilings/working areas are in accordance with DGVU 113-004 defined as "Confined Spaces".

There are possible hazards here due to:

- Insufficient rescue measures
- Electricity
- narrow access openings
- increased physical exertion



These areas are on-site or in the appropriate Floor plans of the buildings marked. These can be viewed if necessary.

The following PPEs should be used: Impact **cap/helmet, cut-resistant gloves**. Carrying a hand lamp is recommended. Further information on protective measures may be found in the permit.

A permit is not required for the following work:

- Inspection of suspended ceilings (e. g. P&I comparison)
- Monitoring work (e. g. volume flow measurements)
- Work of the same safety hazard

# Suspended ceilings - Confined spaces



- **Suspended ceilings may only be accessed 2 persons at a time!**  
If, in exceptional cases, it is not possible to avoid entering the suspended ceilings alone (e.g. when on call), the use of a PNG device is mandatory. This is available - after appropriate instruction - from site security.
- Suspended ceilings must always be walked on with great care. Areas that cannot be walked on are marked or cordoned off on site.
- Barriers or covers must not be removed. Nothing may be changed on suspended/clean room ceilings and their suspensions/threaded rods/constructions.
- **Walking on conveyor belts, ceiling elements for light or ladders etc. is prohibited!**





# Suspended ceilings - Confined spaces



- The partner company that opens a ceiling also closes it again after completion of the work! During the entire opening time, a **complete traffic safety** (possibly security guards) must be ensured.
- Additional installations/loads, such as cables, sprinklers, recessed lights on the ceiling system, must be suspended separately after approval by the contact person and must not be placed on the ceiling or attached to its substructure.
- Ceiling panels must be secured against removal and displacement.
- **Damage must be reported immediately to the Boehringer Ingelheim contact person!**



Example:  
Cable  
bundles  
resting/load  
ing on the  
ceiling



Example:  
Disassembled  
hanger of the  
substructure

# Cold rooms, electrical rooms, storage areas & corridors

## Entering cold rooms

Since some refrigeration centers contain ammonia, special NH<sub>3</sub> (ammonia) training must be completed before entering. Here, the special hazard potential and the handling of ammonia are explained.

Doors of the cold rooms must always be kept closed!

## Entry into electrical control rooms

Electrical switchgear rooms may only be entered by qualified electricians or electrically instructed persons. If work has to be carried out in these rooms by persons who have not been electrically instructed, this is only permitted under the supervision of a qualified electrician.

## Working in the storage area & corridors

When working in the storage area or on corridors, be on the look out for industrial trucks (forklifts, AGVs, etc.)!

Conveyor systems must **NOT** be entered!



# Rooms with servers or PCs

## Entry to rooms with server or PC's for building or process automation

These rooms and their facilities are subject to the IT guidelines for "**Physical Security Server Locations**".

In isolated cases, a control cabinet in a control room or production room can also be considered a "server room" in this sense.

Any access and/or intervention by ALL persons in these rooms or facilities shall be documented in the associated logbook.

The logbooks are subject to review at regular intervals.

This requirement applies to the areas of pharmaceutical and chemical production.

# Pipeline bridges and underground pipeline construction

- **Before starting any work** on above-ground and underground routes, it is **mandatory** that the "Infrastructure inventory change" form be completed and approved by the respective departments or Boehringer Ingelheim contact persons
- Since you will find **confined spaces** here, we expect you to exercise caution and make the necessary accommodations for the weather conditions.
- Minimum PPE Requirements:
  - Safety helmet
  - Safety shoes S3
  - Protective gloves against mechanical hazards where applicable
- A welding blanket or mechanical protection must always be used **to protect line bundles/cables**
- When entering manholes, the permit for entry into tanks and confined spaces is required



# Pipeline bridges and underground pipeline construction

- Always use a welding blanket or mechanical protection to **protect cable bundles/cables**.
- **GFK, PVC and asbestos-cement pipes** must be specially protected against damage.
- A certificate of suitability must be carried when carrying out work on the asbestos-cement pipes.
- In case of accidental or unintentional actuation of fittings, the Boehringer Ingelheim contact person must be informed immediately!
- If **construction power distributors** are used, the RCD switches are to be checked daily for function. This check must be documented.
- There is a particular risk of **cut injuries** due to protruding metal sheets and sharp edges.
- When **extreme weather conditions** (strong winds) are announced, enclosures must be removed.

# Pipeline Bridges I

## **Before the start of any work:**

- Check all piping in the work area for leaks. If a leak is detected, stop work immediately and inform the Boehringer Ingelheim contact person immediately!.

## **During the work:**

- Secure the area below the pipe bridge by cordoning off, if necessary with safety guards, because of the danger of falling objects.
- Larger components must be secured against falling down

## **After completion of the work:**

- Remove all loose parts (screws, mounting material, insulating parts, tools etc.) to prevent them from falling down
- Asbestos gaskets may still be installed in the existing building; these may only be removed by trained personnel
- KMF insulation may only be removed by appropriately trained personnel.

# Pipeline bridges II

## Procedure for conversion work

Before starting: Mark the pipelines on which work is to be carried out

In case of alterations: Weatherproof document and/or flagging tape

In case of dismantling: high-contrast spray

**! Not allowed: markings with Edding or verbal agreements !**

**! Adjacent pipelines must be protected from damage!**

## Tool to use

Suitable: Pipe cutter, hand saw, tiger saw.

Conditionally suitable (permission of Boehringer Ingelheim required): Angle grinder

**! Not allowed: Thermal cutting processes!**

**(Flame cutting, plasma cutting, laser cutting)**



# Stationary Fixed Ladders

- Access to **stationary fixed ladders** is only permitted after consultation with the contact person.
- Special attention and concentration is required during ascent and descent via stationary fixed ladders.
- Some fixed ladders have **increased hazards due to special construction features**:
  - Safety cage unusually narrow (600 mm)
  - Large gap between ladder and exit surface (up to 160 mm)
  - Top rung clearly below the exit surface (especially with bottom flaps in grating levels)
  - Missing/short grab rails at exit: use cross braces of guardrails!
  - Before use, visually check the condition and enter affected ladders with appropriate caution!
- In case of **underground ladders** (e.g. discharge points, diversion structures, pump shafts, rainwater retention basins, pumping stations, wells, cold water basins) safety measures and use only after consultation with Boehringer Ingelheim contact person.

# Working in shafts I

- When entering shafts, the **permit** "Befahren von Behältern und engen Räumen" is required.
- For **minor work** in cable shafts, inspection shafts, metering shafts, gate valve shafts, well shafts, and cooling tower sumps, work may be performed without a permit after consultation and separate instruction.
- **Shafts** may only be opened in consultation with the Mechanical Support department in Ingelheim ([SETAbsperntechnik.ING@boehringer-ingelheim.com](mailto:SETAbsperntechnik.ING@boehringer-ingelheim.com)).
- Opened shafts must be secured.
- **Entry only permitted with rescue harness**; an operational tripod or suitable anchor point must be provided as a rescue measure.
- Before entering, the **breathing air in the shaft** must be measured with a gas detector (in accordance with DGUV Rule 113-004).
- A second person with appropriate training must be on site **as a safety guard**. In the case of several shafts (cable pull, work on cooling tower troughs), one safety guard is sufficient if there is a possibility of contact with each employee.



# Working in shafts II

## Entry into cable shafts:

- Use mobile ladders, which are already available in most shafts. Do not use ladders that have not been tested (annual inspection, check test seal). If no tested ladder is available: Contact Mechanical Support Department Ingelheim ([SETAbsperrtechnik.ING@boehringer-ingelheim.com](mailto:SETAbsperrtechnik.ING@boehringer-ingelheim.com)).
- Existing step irons, fixed ladders and climbing boxes must not be used (not tested, will be successively dismantled).

## Entry into sewer shafts:

- Access only via personal hoisting winches (abseiling) or, if available, by arrangement via tested fixed fixed ladders (5-yearly inspection, check inspection seal).
- Existing climbing irons or climbing boxes must not be used (not tested!).

# Underground Pipelines

- Securing the excavation pits (fall protection, ladders, etc.) in accordance with DGUV Information 201-052.
- As a matter of principle, manual excavations are to be carried out in the area of existing pipelines and cables.
- Work on the chemical sewer (**red manhole cover**) only with a suitable gas measuring device (available from the plant fire department)
- Cutting of existing pipes only after joint marking with Medien, Netze Ingelheim (high-contrast spray)
- Work on concrete abutments and foundations only in coordination with Medien, Netze Ingelheim
- In some cases, asbestos cement pipes are still in operation in the existing building; these may only be worked on and removed by trained personnel.

# Entering roof areas



- Entering/working on roof areas with a fall hazard is only permitted with a permit or in the company of a Boehringer Ingelheim employee who is familiar with the site and the area.
- Roofs without direct danger of falling (demarcated areas within mobile or fixed railings, mobile post chain, parapet elevations) can be entered without a permit.
- Work that falls below a minimum distance of 2m from unsecured fall edges, skylights or SHEVS requires the wearing of suitable PPEgA (personal protective equipment against falls).
- The PPEgA is to be set up primarily as a restraint system to make a fall over the fall edge impossible.
- Work on roof surfaces requiring PPEgA must be accompanied by a second person as a safety guard.

Working alone in the area with a potential fall hazard is prohibited!

# Entering roof areas



- Move only on the paths provided for this purpose. Do not walk on skylight domes - **risk of falling!**
- Staying in the effective range of SHEV systems must be avoided as a matter of principle! If it is necessary to stay in the immediate vicinity of SHEV flaps, this must be reduced to a minimum of time. In the event of an alarm, SHEV flaps can open abruptly due to the detection of smoke and/or heat!
- Further hazards may arise from e.g. power lines, mobile phone antennas, explosion-proof exhaust air on roof surfaces

Please contact your Boehringer Ingelheim contact person for more information before starting work!

- It is forbidden for Boehringer Ingelheim employees and partner companies to enter the steel platforms with mobile radio equipment located on the roof
- In case of building alarm and occurrence of unexpected situations, e.g. unfavorable change of weather, wetness/ice, unclear substance leakage at roof outlets, the work has to be stopped immediately and the supervisor has to be informed

# ZABA - Central waste water treatment plant (WWTP)



**Biological agents** are microorganisms that can cause infections, allergenic or toxic effects in humans.

Biological agents can be:

**Bacteria**, e.g.: Salmonella, Legionella, **molds, viruses**, e.g.: Hepatitis (A, B, C), **endoparasites**, e.g.: Fox tapeworm, etc.

Contamination with biological agents is possible **in the entire plant area!**

Observe the posted operating instructions!

The following hygiene measures must be observed:

- Do not bring **any food or stimulants** into the workplace. Use the designated break room!
- **Wash and disinfect** hands regularly.
- In case of longer stay, shower after end of work!
- **Clean work clothes** regularly and keep them separate from private clothing. Change immediately in case of contamination.

# ZABA - Central waste water treatment plant (WWTP)



On the ZABA site you can expect other hazards besides biological ones, therefore:

Always check in at building no. 7454!!!

- There is an increased risk of drowning in the aeration basins in buildings 7458 and 7464 (aerated, therefore no buoyancy). **Do not climb over the railing!**
- Watch out for increased danger from moving parts, such as automatic sliders, scrapers, etc.
- There are **marked!** Pipelines with a wide variety of hazardous materials laid on the site.

Work on pipelines always requires a release by the company!

- When working in shafts, always carry a gas measuring device.
- Before entering the raw water structure in building 7413, note the additional PPE and safety measures required. **Make inquiries!**



**Any questions or an unclear situation on site? Your Boehringer Ingelheim contact person can help!  
Thank you!**



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