

Work instructions

Work area related to § 12 Abs.1 der BioStoffV und § 17 Abs.2 der GenTSV

Area of application

Work with biological agents including spore-formers and risk group 2 classified genetically modified organisms

Risks for human health and the environment



- » Risk group 2 classified biological agents (viruses, bacteria, fungi, endoparasites), can cause infection and disease by exposure to the human body. Allergenic and toxic potential is also possible.
- » Absorption can be by inhalation of aerosols, but also via the skin, especially in the case of rupture, puncture and cut injuries, or in the case of chronically pre-damaged skin. In case of splashing or spilling of samples, an exposure via the eye and mucosa is possible.
- » For many laboratory activities (e.g. decanting, plating, preparation of dilution series, pipetting, mixing, vortexing) aerosols can be produced. There is a risk of infection by inhalation of these aerosols or by contact with their precipitates on surfaces.

Protective measures and behavioural safety rules



- » Work with biological agents and genetically modified organisms classified as risk group 2 are only allowed to be performed in laboratories with protection level 2/safety level 2 or higher.
- » Only persons authorized and instructed by the project leader get access to the laboratory.
- » In the laboratory, a closed lab coat, robust and closed footwear and safety glasses must be worn. S2 lab coats may only be worn in level 2 laboratories and must be removed when leaving the laboratory. Dirty/contaminated lab coats must be placed in empty S2 garbage labelled autoclave bins and placed in the media kitchen (2.29/30).
- » When leaving the laboratory and after any skin contact with pathogenic material, hands should be disinfected with Sterillium classic pure and washed with soap (Baktolin) if necessary. Afterwards, protective or care cream for sensitive hands (Prolinde) should be applied (see hygiene plan).
- » All work where aerosol formation is to be expected (e.g. decanting, plating, production of dilution series, pipetting, mixing), has to be carried out under a microbiological safety bench. The safety bench must be kept tidy, clean and not overcrowded. After finishing, work surfaces have to be disinfected with OxyfoamS with 60 min incubation time.
- » Only safety scalpels and safety needles may be used.
- » Only tightly closing centrifuge tubes should be used for centrifugation.
- » During direct handling of infectious material, disposable nitrile gloves (eco Nitrile) from EcoShield have to be worn. Smear contaminations (e.g. on telephone handsets, door handles, keyboards) should be avoided.
- » Pathogenic micro-organisms and gene modified material classified as risk group 2, as well as S2 waste, should only be internally transported in sealed, leak-proof and break-proof containers.
- » After finishing the work and before leaving the laboratory, the workplace, especially the surfaces, have to be disinfected with OxyfoamS with 60 min incubation time.
- » Contaminated equipment (e.g. safety bench) must be disinfected before cleaning or maintenance with OxyfoamS with 60 min incubation time.
- » Eating, smoking, drinking, chewing gum or applying cosmetics is not permitted in the laboratory.
- » It is possible to take advantage of occupational medical check-ups (incl. vaccination).

What to do in the event of danger/incident



- » In case of release of large amounts of microorganisms or GMOs classified as risk group 2 (e.g. spillage, breakage of culture bottles): Warn employees, close off area if necessary, inform the project leader immediately.
- » Lab coats, glasses, disposable nitrile gloves, etc. must be worn when removing the waste and when aerosols are present, a filtering half mask (FFP 2) must be worn.
- » Liquids are absorbed with a paper tissue and placed in an autoclave bin. The contaminated area must be disinfected with OxyfoamS with 60 min incubation time. Avoid unauthorized access. Keep doors and windows closed
- » All contaminated objects (including lab coats) have to be transferred in an separate, from the outside labelled autoclaving bin.

First Aid



- Cut/stab wounds:** Bleed out wound and disinfect with Octenisept.
- Skin contact:** Rinse under running water and disinfect with Sterillium classic pure.
- Eye contact:** Rinse the affected eye thoroughly with eye wash.
- Contact with mucosa:** Rinse/disinfect with Octenisept.



Every type of injury must be documented in a register of accidents and be reported to the responsible supervisor and the project leader. If the injuries are related to infectious material you have to visit the "Durchgangsarzt" The accident report must be filled out.

Drop- off center: Charité emergency room: 0- 450 531 00
Emergency: 112

Waste disposal

- » In principle, all liquid waste containing microorganisms or GMOs classified as risk group 2 has to be autoclaved. The liquid waste must be collected in tightly sealed, break-proof containers which are clearly labeled on the outside (2L container with yellow lid).
- » Solid waste must be disposed of in autoclave bins labelled "S2 " on the outside. Autoclave bins are regularly disinfected from outside or upon contamination. The bins must be closed and should be filled no more than 2/3. All waste has to be brought to the lab kitchen before the weekend.
- » The waste should be placed in the lab-kitchen by instructed persons only.
- » Sharp objects are disposed of in the yellow Multi-Safe waste disposal container and subsequently autoclaved in the lab-kitchen.

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