Annex 10   
Use of the Class 2 safety cabinet

**By way of explanation: this template was put together on the basis of a leaflet from the German Chemical Industry Employers’ Accident Insurance Association:** [**https://downloadcenter.bgrci.de/resource/downloadcenter/downloads/B011\_BA\_MSW.2011-02-17.doc**](https://downloadcenter.bgrci.de/resource/downloadcenter/downloads/B011_BA_MSW.2011-02-17.doc) **and must be adapted to the situation in the particular plant.**

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|  | **Background**  Class 2 safety cabinets ensure that people, product and the environment are protected. About 70% of the air is recirculated in the compartment; 30% of the air is discharged into the surrounding air through high-performance filters. Accordingly, this volume of 30% is constantly extracted from the laboratory, thereby contributing to occupational safety and the protection of health.  Good microbiological practices are essential even in the safety cabinet, since such cabinets protect only against aerosol contamination and not against contact contamination. Accordingly, the employee’s hand must remain within the safety cabinet during work and must not be brought up to the face. |
|  | **Dangers for humans and the environment**  Danger of release of biological substances from the cabinet **as a result** of incorrect working procedures. |
|  | **Precautions and rules of conduct** |
| *Avoid draughts in the working area; to this end, keep windows and doors closed during work in the safety cabinet. Do not position the cabinet too close to doors.*  *Switch on the equipment approx. 10 (to 30) minutes before the start of work.*  *Use personal protective equipment: at least laboratory coat.*  *When working with particularly problematic chemical or biological agents, also use eye protection and disposable gloves (latex or nitrile). (Refer to the specific operating instructions required for this purpose).*  *Prevent aerosol formation as far as possible even under the safety cabinet.*  *Prevent disturbances to the laminar air flow as far as possible:*   * *no rapid or violent movements;* * *only bring bulky items of equipment into the safety cabinet if absolutely essential and remove them immediately after use;* * *do not store any unnecessary items in the safety cabinet – only introduce material and equipment to the extent absolutely necessary for the work;* * *do not use Bunsen burners over extended periods – only ignite as required, using a sensor or foot switch;* * ***do not cover air holes.***   *All equipment brought into the safety cabinet must be cleaned and disinfected beforehand. Items of equipment removed from the safety cabinet must first be disinfected and, if necessary, then cleaned (in this sequence).*  *The working surface of the safety cabinet must be cleaned and disinfected at the end of the work. Waste must be disposed of, Pasteur pipettes on hoses must be removed and vacuum hoses must be disinfected (see operating instructions on hygiene and waste disposal). If flammable disinfectants are stipulated, disinfect only by wiping with quantities of less than 20 ml in order to prevent any explosion.* |
|  | If work is not being carried out on the safety cabinet, it can be switched to stand-by in order to save energy. This prevents contamination of the workroom from the laboratory air.  If work involving potentially hazardous biological substances has been carried out, the equipment must be switched off only by an authorized person. The sterility of the inside should be monitored from time to time by placing open Petri dishes lined with nutrients there. If microorganism growth occurs on the nutrients, the Laboratory Manager and the responsible person must be informed in accordance with the service plan. |
|  | **Malfunctions and dangers** |
|  | Safe operation is only possible if the green light is showing and the front sash is down. Never ignore alarm signals.  **The cabinet does not offer any protection against harmful gases and vapours.**  In the event of a complete functional failure during work with potentially dangerous biological substances work must be stopped (in a controlled manner). The managers and the Biosafety Officers must be informed immediately.  In the event of a visual and acoustic alarm, the cause of the malfunction must be established – if necessary, with the help of the operating instructions – and, if possible, corrected by the relevant person himself (e.g. by positioning the front sash correctly). If it is not possible to correct the malfunction or if attempts are unsuccessful, the responsible person must be notified in accordance with the service plan. |
|  | If there is an indication that the preliminary filter or the HEPA filter needs to be replaced (alarm signal without warning tone), work must be continued and the responsible person notified in accordance with the service plan, so that new filters can be ordered.  If there is a similar signal with a warning tone, the work must be ended in a controlled manner and the responsible person must be notified in accordance with the service plan. |
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|  | **Accidents and first aid** |
| Rinse an open wound, allow it to bleed if possible and spray it immediately with **disinfectant.** Apply more disinfectant if necessary and allow it to act according to the instructions, though at least for 30 minutes.  If necessary, alert the first-aid centre or a doctor. Pay attention to *Emergency planning: action in the event of incidents in the laboratory*. Complete *Report sheet for laboratory incidents* and inform managers and Biosafety Officers. |

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