

Key Risk Area (KRA)

KRA 1.14 Guideline to Biological Decontamination of Unsealed Surfaces in Laboratories

Biological Decontamination of Unsealed Surfaces in Laboratories

1. Purpose

To establish a guideline for the safe and effective decontamination of biological agents in lab environments from unsealed surfaces, ensuring compliance with regulatory standards and minimizing the risk of contamination or infection.

2. Scope

This guideline applies to personnel involved in biological work, including laboratory technicians and researchers within facilities handling biological materials or potentially infectious agents.

Some older labs may have surfaces that are unsealed. This may be due to the age and scheduled upgrade of labs across various campuses. Eg, some old labs have benches with sealed laminate tops and sides but on the underside of the bench top, the compressed particle board is an unsealed surface that was typical at that year of installation.

NOTE – Biological contamination of unsealed surfaces in labs are to be reported through the AIMS hazard and incident system.

3. Responsibilities

- All lab personnel
- PI / CIs, Supervisors and Lab Managers must ensure staff / students are trained, and that SOPs, Risk Assessments (RA) and other relevant guidelines are followed

4. Materials and Equipment

- Personal Protective Equipment (PPE): gloves, lab coat, eye protection, mask/respirator (as per disinfectant SDS recommendation)
- Disinfectant Types: Sodium hypochlorite (0.5%), Virkon (1%), Ethanol (70%)
- Cleaning tools: disposable towels, detergent, water
- Biohazard waste bags /containers
- Biological or chemical indicators (for verification if using)

NOTE – as per each lab's approved Safety Protocols, the lab may be required to deal with particular biological contamination as described and written in their Safety Protocol (SP) supporting documentation. Those procedures would take precedence over this guideline.

5. Procedure

- A. Preparation
 - Conduct a risk assessment
 - Identify contamination type
 - Select and put on appropriate PPE
 - Ensure ventilation or use fume hoods
 - Notify personnel and restrict access
- B. Pre-Cleaning
 - Remove visible debris using detergent and water
 - Dispose of contaminated materials in biohazard containers
 - Segregate reusable items for sterilization
- C. Disinfection/Sterilisation
 - Select appropriate disinfectant type
 - Apply using spray, wipe, immersion, or fogging (as per disinfectant recommendation)
 - Ensure minimum contact time is done (eg, bleach – wet contact 1% solution for a minimum of 10 minutes. Fresh solution/s should have been prepared in the last 24 hours. Date and time is recorded on exterior of working solutions to identify)
 - Avoid corrosive agents on sensitive equipment (can cause rusting and corrosion of surfaces or working parts of instruments)
- D. Post-Decontamination
 - Rinse surfaces if required with soapy water solution
 - Dry surfaces with disposable towels or air dry
 - Dispose of used materials in biohazard waste
 - Remove PPE safely and perform hand hygiene

6. Verification (if required)

- Use biological or chemical indicators to confirm sterilization (if using autoclave)
- Maintain records of decontamination activities

7. Documentation

Record the following:

- Date and time
- Area decontaminated
- Method and chemicals used

- 71 - Personnel involved
- 72 - Verification results (if required)

73 8. Disposal

- 74 - Dispose of contaminated items as per Newcastle University waste guidelines
- 75 - if the unsealed surface cannot be adequately decontaminated and a residual risk remains
- 76 for users in the lab areas, the area must be Risk Assessed (RA) to establish level of residual
- 77 risk to users in that area.
- 78 - if the RA shows that there is **low** residual risk, this should be recorded in the associated
- 79 AIMS incident report, notified to IFS for their records so that any minor or major lab works
- 80 within the area can be planned to take into account the contaminated unsealed surface.
- 81 - if the RA shows that the residual risk is **medium or high**, then the person responsible for
- 82 the lab area is to make safe and/or quarantine the area and make unavailable for immediate
- 83 use. Contact the Central WHS&W Team, IBC Chair, and IFS Business Partner to notify them
- 84 of the situation. Further decontamination plans may need to be established, or a decision
- 85 made to dispose of the contaminated item, eg bench through appropriate designated
- 86 biological waste pathways by appropriately trained and supervised persons.

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