National Department of Health

Title: Laboratory Cleaning and Disinfection

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1. Purpose and Scope

This document describes the use of cleaning and disinfectants for routine laboratory cleaning and decontamination.

2. Principle & Clinical application

Cleaning refers to the removal of dirt and impurities, including micro-organisms, from surfaces. Cleaning alone does not kill micro-organisms but reduces the quantity present.

Disinfecting works by using disinfectant chemicals that kill micro-organisms on surfaces and this can then prevent risk of infection to people who contact that surface. The process is most effective if preceded by a cleaning step as the presence of organic debris impedes disinfectant action. The effectiveness of disinfection of a cleaned surface depends on the concentration of disinfectant and the duration of contact.

3. Responsibilities

Person	**Responsibility**
Lab technician, scientist	Maintain a tidy workspace Clean up as you go Clean/disinfect bench / biosafety cabinet before and after lab shift Manage contaminated waste, its decontamination and disposal (see Waste decontamination and management SOP)
Lab manager & Biosafety Officer	Regularly check the state of cleanliness and ensure that staff and cleaners understand their responsibilities Conduct monthly lab safety audit
Lab cleaners	Clean floors, sinks, toilets and non-bench surfaces as per schedule Remove uncontaminated waste and dispose of same

4. Equipment and Materials

4.1 **Multi-Purpose Detergent** (multi-clean) is an efficient solution for cleaning floors, walls, tiles, basins, and equipment. It must be prepared in the correct concentration.

4.2 **Cloths, mops and buckets** are used for cleaning. Cleaning cloths and mop heads require regular washing and eventual replacement when worn.

4.3 **Ethanol** is used at a dilution of 70%. Bottles with ethanol-containing solutions must be clearly labelled to avoid autoclaving. It is used to disinfect benches before and after work. It is applied using disposable paper towels.

4.4 **10% bleach (sodium hypochlorite)** is used when a body fluid spill occurs. It is not used on equipment or benches owing to its corrosive nature. The solution once prepared has a 7 day shelf life and then requires discard.

> A 10:1 bleach solution/Sodium Hypochlorite (also called 10% bleach solution) is made by adding nine parts water to one part bleach (sodium hypochlorite 5%[1]). Bleach solution is corrosive to stainless steel; therefore, thorough rinsing must follow its use on surfaces or floor.

4.5 **ZeoMED** spill kits : The ZeoMED™ Biohazard Spill Kit provides a complete, quick compliant response solution for general and body fluid spills. Refer to G_10_J_2 How to use a Zeomed Biohazard Spill Kit.

5. Cleaning Procedure

5.1 A cleaning routine should be established for the work area with week day cleaning schedules in addition to a more thorough cleaning once a month.

5.2 Keep the laboratory as tidy as the work allows. Work surfaces should be kept as clean as possible, with only those items needed for the immediate project on that surface.

5.3 Keep an adequately stocked spill kit in the work area. Clean up all small spills immediately. Know what to do in the event of a hazardous material spill and take appropriate action immediately- consult How to use a Zeomed Biohazard Spill Kit, G_10_J_2 .

5.4 Ensure that all wastes that are not general refuse (e.g., radioactive, chemical, and biohazardous wastes) are prominently labelled and that staff are trained not to remove these materials from the lab.

5.5 Chemical wastes must be stored safety and disposed of in accordance with the hospital waste disposal plan by an accredited provider.

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[1] Note that some bleach preparations have only 3% hypochlorite and dilution needs to be altered – add five parts water to one part bleach to obtain the equivalent concentration .

6. Disinfection Procedure

6.1 All work areas and materials that come or may come into contact with biological agents should be disinfected both before and after each use.

6.2 Apply disinfectant (ethanol) to contaminated or potentially contaminated area and wiping surface with paper towel. Dispose of paper into general waste.

6.3 Allow to dry – at least 1 minute required for alcohol to disinfect.

7. Safety

For safety aspects, please review Laboratory Biosafety documents below.

8. Related Documents : available from https://path-png.org/lqm-associated-documents/

- G_10_EX_001 Abridged WHO Laboratory Biosafety Manual 4th Edition 2020 –
- G_10_Info_3 Laboratory Biosafety Information Sheet
- G_10_J_2 How to use a Zeomed Biohazard Spill Kit
- G_10_SOP_22 Waste decontamination and management

9. References

- Centers for Disease Control and Prevention: https://www.cdc.gov/about/lab-safety/index.html