

Cleaning and Disinfecting Guidelines for Laboratories in Phase 1

Overview: The following guidance is for laboratories and research facilities to help identify approved COVID-19 disinfection methods for work areas and equipment. During phase 1, at a minimum, each researcher should execute the disinfection protocol at the beginning and at the end of each shift in the lab.

Required cleaning and disinfection within laboratory areas is the responsibility of research personnel and should be executed following [CDC recommendations](#). Equipment and surfaces that may be touched by multiple people during a work shift must be disinfected every two hours. A sample cleaning and disinfecting protocol can be found on page 3 of this document.

High-touch locations and equipment: The following are locations and equipment with high frequency of handling and contact that should be disinfected.

- Benchtops
- Equipment handles and latches (refrigerators, incubators, freezers, etc.)
- Equipment controls and touchpads
- Light switches and plates
- Lab phones
- Keyboards and other shared computer equipment
- Fume hood and biosafety cabinet sashes
- Lab doors, drawers, and cabinet handles
- Bin, waste container, and water incubator lids
- Hand tools
- Micropipettors and other shared tools
- Faucet handles and sprayer grips
- Baskets, bins, trays, etc.
- Outsides of shared chemical and reagent bottles and caps
- Chair backs and armrests
- Pens, whiteboard markers, etc.

Approved disinfectants: Use a disinfectant that is [certified by the EPA](#) to be effective against the COVID-19 coronavirus. To verify the disinfectant is on the EPA registry list, search for the product name or EPA ID number (located on product packaging). The product label may also list “coronavirus” among the organisms for which it is approved.

10% bleach in water is an approved disinfectant and should be freshly prepared every 24 hours.

70% ethanol is *not* recommended for all surfaces, though it may be appropriate for electronics and other delicate surfaces.

NEVER MIX CLEANING PRODUCTS TOGETHER, ESPECIALLY WITH BLEACH!

Personal Protective Equipment: Be sure to wear appropriate PPE when performing all laboratory tasks, including surface disinfection of laboratory surfaces. At a minimum, lab coat, gloves, and safety glasses should be worn when performing disinfection of laboratory surfaces.

Important disinfection reminders: The following additional tips will help ensure lab surfaces are disinfected appropriately.

- Reduce clutter so that desk areas, lab benches, and other work areas can be properly disinfected.
- Wash visibly soiled areas with soap and water prior to disinfecting.
- Pay attention to disinfectant contact time. Read the labels on all products and follow instructions for proper use, including required contact time (the amount of time a disinfectant needs to remain on a surface to effectively kill microorganisms). Spraying and immediately wiping is often insufficient; most products need to be sprayed thoroughly and allowed to sit for 5-10 minutes. FOLLOW THE MANUFACTURER'S INSTRUCTIONS on the product or look them up online before using the disinfectant.
- Use care with delicate equipment and electronics. Certain equipment (e.g., microscope oculars, electronics and computer screens) may be damaged by spraying and by harsher disinfectants such as bleach. If in doubt, you should consult product manuals or contact the manufacturer for cleaning and disinfecting procedure recommendations for the specific product or piece of equipment. If you have an approved quaternary-ammonium disinfectant or 70% ethanol wipes, use them for these more delicate tasks. If you do not have disinfectant wipes, delicate items can be disinfected by soaking a clean soft cloth in the alcohol or disinfectant, and then using it to wipe the keyboard/switch/etc., being careful to avoid getting liquid into any openings. The surface should be visibly wet after you wipe it, and the disinfectant should be left to evaporate from the surface.
- Wash hands thoroughly, and often. Remember to wash hands with soap and hot water for at least 20 seconds prior to starting work, during your work day, between glove changes, and after disinfection procedures.

Sample Cleaning and Disinfecting Procedure for a Lab Shift

1. Prior to coming to work, think about what experiments you will work on that day and what materials and equipment you will use. It may be helpful to make a list of shared equipment you plan on touching, so that you can refer back to it when it is time to perform disinfection.
 - For example, today, I will be culturing bacterial cells. I will touch the refrigerator, pipettes, the -80 freezer, stock solutions, a shared tube box, the biosafety cabinet, and the incubator. This is in addition to other common objects, such as the lab door handle, light switches, markers for labeling tubes, drawer handles, the sink and soap dispenser, my lab chair, the chair at the biosafety cabinet and my benchtop.
2. Once my list is set, I enter the lab and immediately [wash my hands](#).
 - Wash hands thoroughly for 20 seconds with soap and hot water. Rub hands together. Lather the backs of hands, between fingers, and under nails. (Sing “Happy Birthday” twice.) Rinse hands well. Dry with paper towels, then turn off the faucet and discard towels.
3. Next, I don my personal protective equipment (PPE).
 - I am wearing a lab coat, safety glasses, and nitrile gloves.
4. Before beginning lab work, I need to do my pre-work disinfection process.
 - I will be using [Clorox Disinfecting Wipes](#) (a quaternary ammonium product, [EPA registration #5813-79](#)), and 70% ethanol. I checked the back of the wipe container and noted that the recommended contact time is 4 minutes.
 - I proceed to disinfect all the high touch surfaces and equipment pieces I listed in step 1. If any surfaces were visibly dirty, I would first wipe with soap and water BEFORE using the disinfecting product. I use the wipes on hard, nonporous, and non-delicate surfaces, such as the benchtop, door and drawer handles, chair, light switches, markers, and bottle tops, following the manufacturer’s instructions on the back label, which state to use enough wipes so that surfaces remain visibly wet for 4 minutes. Then let air dry. I then use the 70% ethanol to thoroughly wet paper towels, which I use to wipe down items such as the biosafety cabinet controls and sash, and incubator controls. Also allowing to air dry.
5. Now that I have done my pre-work disinfection, I remove my gloves and wash my hands. Then I don a new pair of gloves.
 - I can now proceed with setting up my bacterial cultures. Since I am the only one working in the lab, I don’t need to worry about disinfecting while I work. However, if I were in a shared space, using common equipment, I would set a timer to remind myself to follow my disinfection procedure every two hours, or any time before or after using the shared equipment.
6. I’ve completed my lab tasks for the day, so I remove my gloves and wash my hands again.

7. Now I don another pair of gloves to do my post-work disinfection. I clean and disinfect the same surfaces I disinfected for my pre-work procedure, using the same products and procedures.
8. Once finished, I remove my PPE and wash my hands one last time before exiting the lab.