

COVID-19 Guidance: Lab Cleaning and Disinfection

What to Clean and Disinfect and When to Do it

Encourage students and staff to keep their personal items (e.g., cell phones, other electronics) and personal work spaces clean. Encourage them to use disinfectant wipes to wipe down shared desks, lab equipment, and other shared objects and surfaces before use.

What lab personnel are responsible for cleaning?

Lab personnel are responsible for cleaning the surfaces in their laboratories and offices.

Shared objects:

- Use of shared objects (e.g., lab equipment, computer equipment, desks) should be limited when possible or cleaned between use. Discourage sharing of items that are difficult to clean or disinfect.
- Ensure adequate supplies to minimize sharing of high-touch materials to the extent possible (e.g., assigning each student their own reagents, lab equipment, computers) or limit use of supplies and equipment by one group of students at a time and clean and disinfect between use.
- Avoid sharing electronic devices, books, pens, and other learning aids.

Labs:

- Shared equipment in the lab must be disinfected **before and after** each use. Label or place a sign near the equipment with a reminder to do this., or cleaned between use
- Place a spray bottle or with disinfectant and wipes near the equipment. (Don't forget to properly label the bottle and keep a small trash can nearby for disposal of the wipes).
- High touch surfaces in the lab must be disinfected at **start of and halfway through the workday**. Examples of high touch surfaces in the lab are:

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| • Benchtops | • Outsides of shared chemical bottles and caps |
| • Equipment handles and latches | • Hand tools |
| • Equipment controls and touchpads | • Faucet handles and sprayer grips |
| • Baskets, bins, trays, etc. | • Pens, whiteboard markers, etc. |
| • Drawer and cabinet handles | • Chair backs and arm rests |
| • Bin and water incubator lids | • Light switches |
| • Micropipettors and other shared tools | • Door handles/knobs in the lab |
| • Hood sashes and airfoils | • Etc. |

Shared equipment spaces:

- Shared facilities and equipment, including fume hoods and biosafety cabinets, procedure rooms, instruments, and instrument/resource facilities, will require coordination with other lab groups. A sign-up sheet or reservation system should be considered for managing this.
- Disinfect equipment **before** and **after** each use. This includes all touchable surfaces. Place a spray bottle with disinfectant and wipes near the equipment.

Deliveries:

All deliveries received to the lab must be surface disinfected before opened. Opened promptly upon receipt. Remove the packing materials from the lab and wash your hands after opening packages.

Offices:

- Shared office spaces must be cleaned by the occupants. Disinfect any shared office equipment and supplies **before** and **after** each use.
- Disinfect touchable surfaces in your personal workspace **twice per day**.

Disinfectants and Use

The disinfectant and its concentration should be carefully selected to avoid damaging surfaces and to avoid or minimize toxic effects. Surfaces should always be cleaned with soap and water or a detergent to remove organic matter first, followed by disinfection. Sodium hypochlorite (bleach) may be used at a recommended concentration of 0.1% (1000 ppm). Alternatively, alcohol with 70%-90% concentration may be used for surface disinfection.

Sodium hypochlorite: Concentration and use

The NICD recommended concentration sodium hypochlorite = 1 000 pm

Starting solution: Most household bleach solutions contain 5% sodium hypochlorite (50 000 ppm available chlorine).

→ To make up a 10 litre bucket, add 210 ml 5% bleach into 9.8 litres of water.

The following online calculator can be used if a different % sodium hypochlorite is available or if a different volume is needed = <https://www.publichealthontario.ca/en/health-topics/environmental-occupational-health/water-quality/chlorine-dilution-calculator>

Disinfection by wiping of nonporous surfaces: a contact time of ≥ 10 minutes is recommended.

N.B. Surfaces must be cleaned of organic materials **before** disinfection or immersion.

Instructions for Disinfecting Surfaces

- Normal routine cleaning with soap and water removes germs and dirt from surfaces. It lowers the risk of spreading COVID-19 infection.
- For most disinfectants, you need to thoroughly wet the surface, then wait the appropriate contact time as specified on the label before wiping. This is even true of bleach. If your bottle doesn't have the instructions on the label, look them up online. Do not assume that the disinfectant works on contact.
- Benchtop liners (diaper paper) cannot be cleaned or disinfected. Liners must be replaced daily or not used so that the benchtop can be adequately disinfected.
- Wipes used for disinfecting surfaces can be discarded in the regular trash.

Precautions

Wear PPE including gloves and safety glasses while using disinfectants. After cleaning, remove and dispose of gloves and immediately wash hands.

Protecting sensitive equipment

Certain equipment may be damaged by spraying disinfectants directly onto components (computer keyboards and mice, key-style equipment touchpads, on/off switches, power tools, etc.) and by harsher disinfectants such as bleach. If you have approved quaternary-ammonium disinfectant or 70% ethanol wipes, use them for these more delicate tasks. If you do not have disinfectant wipes, these items can be disinfected by soaking a dry wipe or clean soft cloth in the alcohol or disinfectant until it is soaked but not quite dripping, 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.

Consider whether frequently used or hard to clean electronics should be protected with a disposable barrier.

Check with the manufacture or product manual for specific instructions on cleaning and disinfecting specialized equipment.

General Guidance for Cleaning Computers:

- Use only a soft, lint-free cloth. Avoid abrasive cloths, paper towels, or similar items.
- Avoid excessive wiping, which might cause damage.
- Unplug all external power sources, devices, and cables.
- Don't get moisture into any openings.
- Don't use aerosol sprays, bleaches, or abrasives.
- Don't spray cleaners directly onto the item