



ENVIRONMENTAL HEALTH AND SAFETY

# Laboratory Housekeeping: Expectations for Cleaning & Disinfection

Protect yourself and others from respiratory virus transmission in the laboratory (i.e. restricted areas requiring badge access), in addition to the standard recommendations for staying home if symptomatic, covering coughs, disposing of paper tissues immediately after use, etc., as responsible members of the university community you should:

1. Clean and disinfect hard surfaces of laboratory work areas: Daily
  - a. Before and after working with any biological materials, especially in the biological safety cabinet (BSC) and laboratory benches
  - b. After any spills
2. Dispose of absorbent pads after one use with biohazardous materials (i.e. human blood/tissue, infectious agents, recombinant nucleic acids, viral vectors, whole animals).
3. Researchers should twice daily wipe down with disinfectant commonly touched surfaces depending upon their use, including but not limited to:

Door handles	Microscopes
Pipettors	Freezer/refrigerator doors, key pads, locks
Centrifuge controls, lids	Shared equipment
Sink faucets	Shared computer keyboards
Phones	

4. Facilities Management contractors are responsible in public areas for high touch surfaces, such as door handles, elevator buttons, restrooms, water fountains, break rooms/kitchens, etc.
5. Wash your hands with soap and water for 20 seconds:
  - a. Immediately after taking off nitrile gloves before leaving laboratory area
  - b. After touching commonly shared surfaces without gloves
6. When wearing gloves, remember your gloves are considered “contaminated” and
  - a. Do not touch your face, nose, eyes with gloved hands
  - b. Do not wear gloves into non-laboratory areas such as break rooms, offices, elevators, etc.
7. Hand sanitizers containing at least 60% alcohol can be used as a “stop-gap” measure until you can wash your hands with soap and water
8. If someone in your research group or laboratory area has tested positive for the SARS-CoV-2 virus, a more rigorous, extensive cleaning and disinfection may be needed.
9. All of these recommendations are considered “best practices” for research laboratories even when there is not a possible pandemic.

### Tips about the most commonly used disinfectants used in laboratories:

1. 70% ethanol:
  - a. Acceptable for cleaning dust or residues from hard surfaces
  - b. In Colorado’s dry climate, it is not considered to be an effective “disinfectant” because it so quickly evaporates that it is hard to obtain a ten minute contact time
  - c. It can be used as a “rinse” after using an efficacious disinfectant containing bleach or quaternary ammonias
  - d. Dispensing bottle should be clearly labeled

## 2. Bleach: 10% vs 1%

- a. Household bleach (5.25% sodium hypochlorite ) starts to deteriorate when the bottle is opened;
  - i. it maintains an acceptable level of active chlorine for one year so write the date opened on the bottle.
- b. 10% dilution should be made weekly; 1% dilution should be made up daily
  - i. Both are effective against enveloped viruses
  - ii. Bottle should be labeled with concentration, date it was diluted and initials of who performed the dilution
- c. Keep out of heat, sunlight

For a complete list of EPA approved disinfectants considered effective against SARS-CoV-2:

[https://www.epa.gov/sites/production/files/2020-03/documents/sars-cov-2-list\\_03-03-2020.pdf](https://www.epa.gov/sites/production/files/2020-03/documents/sars-cov-2-list_03-03-2020.pdf)

FYI: There are just a few brands of wipes approved so far by the EPA. Products listed by EPA may not be available through the university's "Marketplace" purchasing system.

A company may have products with different active ingredients. For instance, Brand A is associated with bleach products but may also market a product containing a quaternary ammonium. Be sure you know what the active ingredient is for the disinfectant you are using, that it is efficacious against the potential pathogens in your research materials and enveloped viruses, that you use the appropriate contact time.

Remember your freshman chemistry: **NEVER** mix a product containing chlorine with a product containing ammonia. The resulting release of ammonia gas can be injurious.

For questions about choosing a disinfectant or procedures, for instance decontaminating sensitive electronic equipment, contact the [Biological Safety Division](#), 303-724-0345.

## RESOURCES:

American Biological Safety Association (ABSA). SARS-CoV-2/COVID-19 Toolbox.

<https://absa.org/covid19toolbox/>. March 6, 2020.

American Biological Safety Association (ABSA). COVID-19 Information. <https://absa.org/coronavirus/>

CDC/NIH. Biosafety in Microbiological and Biomedical Laboratories. 5<sup>th</sup> edition. 2009.

[https://www.cdc.gov/labs/BMBL.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fbiosafety%2Fpublications%2Fbmbll5%2Findex.htm](https://www.cdc.gov/labs/BMBL.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fbiosafety%2Fpublications%2Fbmbll5%2Findex.htm)

CDC. Interim Laboratory Biosafety Guidelines for Handling and Processing Specimens Associated with Coronavirus Disease 2019 (COVID-19). <https://www.cdc.gov/coronavirus/2019-nCoV/lab/lab-biosafety-guidelines.html>

CDC. Coronavirus Disease 2019 (COVID-19) Resource Page.

<https://www.cdc.gov/coronavirus/2019-ncov/>

Environmental Protection Agency (EPA). Selected EPA-Registered Disinfectants.

<https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants>

Environmental Protection Agency (EPA). Emerging Viral Pathogen Guidance for Antimicrobial Pesticides.

<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

Kampf, et. al. Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents. Journal of Hospital Infection 2020; 104: 246-251.