

## ~ University of Maine System – COVID-19 Science Advisory Board ~

Evidence-based advice on disinfection and cleaning during the SARS-CoV-2 Pandemic  
Updated: June 2, 2020

**Protect Yourself.** SARS-CoV-2, the novel coronavirus that causes COVID-19, can be transmitted from contact with surfaces where the virus remains active. This surface contamination is referred to as “fomites” and results from droplet and aerosol release from respiratory passages (coughing, sneezing, talking). SARS-CoV-2 can remain active on surfaces for hours to days, depending on the surface materials (see the table below, [based on a published research article](#)). **For this reason, it is critical that you protect yourself during the cleaning process by following the [CDC guidelines](#) of wearing a clean face covering, disposable gowns, and disposable gloves for all tasks, including taking out the trash.**

**It is also important to wash your hands upon arrival at work and immediately after you remove your gloves, especially before breaks involving eating or other activities.** [The data show](#) that a good way to avoid fomite transmission is to keep good hand hygiene (washing hands with soap for at least 20 sec, using 60-70% alcohol hand sanitizer if not near a sink) and avoiding touching your face, where virus particles can enter the body through the eyes, nose, and mouth.

- A recent study published in The New England Journal of Medicine investigated the stability of COVID-19 on different surfaces, giving the following results.

Material	Detectable up to	Amount COVID-19 detected	Half-life
Aerosols	3 hours	15.85% of original amount	1.09 hours
Copper	4 hours	None	0.774 hours
Cardboard	24 hours	None	3.46 hours
Stainless steel	48 hours	0.079% of original amount	5.63 hours
Plastic	72 hours	0.079% of original amount	6.81 hours

**Tips for safe and effective cleaning from the CDC.** <https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html>

### Clean

- **Clean surfaces using soap and water, then use disinfectant.**
- Cleaning with soap and water **reduces number of germs, dirt and impurities** on the surface. **Disinfecting kills germs** on surfaces.
- **Practice routine cleaning** of frequently touched surfaces.
  - **Includes:** Tables, doorknobs, light switches, countertops, handles, desks, phones, keyboards, toilets, faucets, sinks, etc.
  - More frequent cleaning and disinfection may be required based on level of use.
  - Surfaces and objects in public places, such as shopping carts and point of sale keypads should be cleaned and disinfected before each use.

### Disinfect

- **Recommend use of EPA-registered household disinfectant.**  
**Follow the instructions on the label** to ensure safe and effective use of the product.  
Many products recommend:
  - Keeping surface wet for a period of time (see product label).
  - Precautions such as wearing gloves and making sure you have good ventilation during use of the product.

**Always read and follow the directions on the label** to ensure safe and effective use.

- Wear skin protection and consider eye protection for potential splash hazards
- Ensure adequate ventilation
- Use no more than the amount recommended on the label
- Use water at room temperature for dilution (unless stated otherwise on the label)
- Avoid mixing chemical products
- Label diluted cleaning solutions
- Store and use chemicals out of the reach of children and pets

You should never eat, drink, breathe or inject these products into your body or apply directly to your skin as they can cause serious harm.

See [EPA's 6 steps for Safe and Effective Disinfectant Use](#)

- **Diluted household bleach solutions may also be used** if appropriate for the surface.
  - Check the label to see if your bleach is intended for disinfection and has a sodium hypochlorite concentration of 5%–6%. Ensure the product is not past its expiration date. Some bleaches, such as those designed for safe use on colored clothing or for whitening may not be suitable for disinfection.
  - Unexpired household bleach will be effective against coronaviruses when properly diluted.  
**Follow manufacturer's instructions** for application and proper ventilation. Never mix household bleach with ammonia or any other cleanser.  
**Leave solution** on the surface for **at least 1 minute**.  
**To make a bleach solution**, mix:
    - 5 tablespoons (1/3rd cup) bleach per gallon of room temperature water  
OR
    - 4 teaspoons bleach per quart of room temperature water
- Bleach solutions will be effective for disinfection up to 24 hours.
- **Alcohol solutions with at least 70% alcohol may also be used.**

### **Soft surfaces**

For soft surfaces such as carpeted floor, rugs, and drapes

- **Clean the surface using soap and water** or with cleaners appropriate for use on these surfaces.
- **Launder items** (if possible) according to the manufacturer's instructions. Use the warmest appropriate water setting and dry items completely.  
OR
- **Disinfect with an EPA-registered household disinfectant.** [These disinfectants](#) meet EPA's criteria for use against COVID-19.
- [Vacuum as usual.](#)

### **Electronics**

For electronics, such as tablets, touch screens, keyboards, remote controls, and ATM machines

- Consider putting a **wipeable cover** on electronics.
- **Follow manufacturer's instruction** for cleaning and disinfecting.

- If no guidance, **use alcohol-based wipes or sprays containing at least 70% alcohol**. Dry surface thoroughly.

## Laundry

For clothing, towels, linens and other items

- Launder items according to the manufacturer's instructions. Use the warmest appropriate water setting and dry items completely.
- **Wear disposable gloves** when handling dirty laundry from a person who is sick.
- Dirty laundry from a person who is sick can be washed with other people's items.
- **Do not shake** dirty laundry.
- Clean and **disinfect clothes hampers** according to guidance above for surfaces.
- Remove gloves, and wash hands right away.
- 

## Cleaning and disinfecting your building or facility if someone is sick

- **Close off areas** used by the person who is sick.
  - Companies do not necessarily need to close operations, if they can close off affected areas.
- **Open outside doors and windows** to increase air circulation in the area.
- **Wait 24 hours** before you clean or disinfect. If 24 hours is not feasible, wait as long as possible.
- Clean and disinfect **all areas used by the person who is sick**, such as offices, bathrooms, common areas, shared electronic equipment like tablets, touch screens, keyboards, remote controls, and ATM machines.
- Vacuum the space if needed. Use vacuum equipped with high-efficiency particular air (HEPA) filter, if available.
  - Do not vacuum a room or space that has people in it. Wait until the room or space is empty to vacuum, such as at night, for common spaces, or during the day for private rooms.
  - Consider temporarily turning off room fans and the central HVAC system that services the room or space, so that particles that escape from vacuuming will not circulate throughout the facility.
- Once area has been **appropriately disinfected**, it **can be opened for use**.
  - **Workers without close contact** with the person who is sick can return to work immediately after disinfection.
- If **more than 7 days** since the person who is sick visited or used the facility, additional cleaning and disinfection is not necessary.
  - Continue routine cleaning and disinfection. This includes everyday practices that businesses and communities normally use to maintain a healthy environment.

## Cleaning and disinfecting outdoor areas

- Outdoor areas, like **playgrounds in schools and parks** generally require **normal routine cleaning**, but **do not require disinfection**.
  - Do not spray disinfectant on outdoor playgrounds- it is not an efficient use of supplies and is not proven to reduce risk of COVID-19 to the public.
  - High touch surfaces made of plastic or metal, such as grab bars and railings should be cleaned routinely.
  - Cleaning and disinfection of wooden surfaces (play structures, benches, tables) or groundcovers (mulch, sand) is not recommended.
- **Sidewalks and roads should not be disinfected.**

- Spread of COVID-19 from these surfaces is very low and disinfection is not effective.

### **When cleaning**

- **Regular cleaning staff** can clean and disinfect community spaces.
  - Ensure they are trained on appropriate use of cleaning and disinfection chemicals.
- **Wear disposable gloves and gowns for all tasks in the cleaning process, including handling trash.**
  - Additional personal protective equipment (PPE) might be required based on the cleaning/disinfectant products being used and whether there is a risk of splash.
  - Gloves and gowns should be removed carefully to avoid contamination of the wearer and the surrounding area.
- **Wash your hands often** with soap and water for 20 seconds.
  - Always wash immediately after removing gloves and after contact with a person who is sick.
  - Hand sanitizer: If soap and water are not available and hands are not visibly dirty, an alcohol-based hand sanitizer that contains at least 60% alcohol may be used. However, if hands are visibly dirty, always wash hands with soap and water.

**Always read and follow the directions on the label** to ensure safe and effective use.

- Keep hand sanitizers away from fire or flame
- For children under six years of age, hand sanitizer should be used with adult supervision
- Always store hand sanitizer out of reach of children and pets

See [FDA's Tips for Safe Sanitizer Use](#) and [CDC's Hand Sanitizer Use Considerations](#)

- **Additional key times to wash hands** include:
  - After blowing one's nose, coughing, or sneezing.
  - After using the restroom.
  - Before eating or preparing food.
  - After contact with animals or pets.
  - Before and after providing routine care for another person who needs assistance (e.g., a child).