

Covid-19 FAQs for Cleaning and Disinfection of Porous and Non-Porous Household/Workplace Materials

1. What do we mean by porous materials?

Porous materials here include items that are made of materials/fabrics/wood that do not repel liquids and may, in fact, absorb moisture. Many of these items can be laundered, such as removable seat covers, curtains, drapes, etc. but many others cannot be laundered (mattresses, box springs, couches, rugs, upholstered chairs and benches, etc.). General guidance on how to clean and disinfect these types of items is useful for households that include someone infected with COVID-19 and also for cleaning/decontaminating meeting rooms, donated furniture, small business furniture, etc.

2. How does this information apply to laboratories?

The information included in this document is not intended for laboratories. Per the CDC-NIH publication "Biosafety in Microbiological and Biomedical Laboratories" (BMBL) 5th ed, laboratories are required to utilize non-porous materials for chair covers and other furniture in the lab.

3. What should I consider when cleaning porous materials?

Scientific evidence suggests that furniture is not a particularly efficient way of transmitting the virus. Reducing the numbers of organisms by cleaning or sanitizing may be sufficient, since disinfecting with something strong will most likely ruin certain types of furniture. Some facilities, such as colleges and large workplaces may have access to commercial cleaning systems utilizing processes such as vaporized hydrogen peroxide or other systems that are impractical for the home, small businesses, or donation centers. If dealing with expensive artwork or antique furniture, consider isolating the item in an unused space for at least 24-72 hours. After that the regular disinfection can be done with solutions that are approved for the type of material.

4. What are the recommendations for cleaning and disinfecting these porous items?

One practical way of addressing possible contamination with SARS-CoV-2 is to isolate the item (assuming it is not visibly soiled) for 24-72 hours. Scientific evidence suggests the virus will not survive this long at room temperature. If the item is visibly soiled, you should follow the instructions below.

Per CDC, remove visible contamination if present and clean with appropriate cleaners indicated for use on these surfaces. After cleaning, launder items as appropriate in accordance with the manufacturer's instructions. If possible, launder items using the warmest appropriate water setting for the items and dry items completely.

If the item cannot be laundered, such as a mattress, and the item is visibly contaminated with body fluids or other unknown substances, suggestions include to use soap and water or a water-based upholstery cleaner (e.g., Bissel, Woolite, etc.). Vacuum after cleaning.

5. What are some other suggestions for cleaning porous materials if they cannot be laundered?

- Sani-Spritz Spray (Lonza) (EPA registration 6836-152) states it is approved for Covid disinfection of porous materials. This is a Quaternary Ammonium compound (Quat) plus alcohol, so it may be less damaging to fabric than some others, like bleach.
- Steam cleaning with a hand-held steamer (heat will reduce the number of organisms)
- Tide Antibacterial Fabric Spray (another Quat)
- Purell Multi-Surface Disinfectant (contains 30% alcohol)

- Vacuum with a HEPA filter
- Advise people to leave the furniture in their garage or other space for 72 hours before using (for donation facilities)

6. What about non-porous surfaces at home or in a donation center?

As far as the non-porous furniture, you can use anything on the Selected EPA Registered Disinfectants, List N (see below) that mentions non-porous surfaces, or a 2% bleach solution, or even most household disinfectants. You will want to clean first with a soap solution followed by a disinfectant unless you are using a disinfectant that contains soap (some disinfectants, like bleach, are not good at removing organic material like feces, blood, etc.).

Don't forget, by law, you must follow the manufacturer's instructions for all cleaning and disinfection products (e.g., concentration, application method, contact time, used solution and empty bottle disposal, etc.). Many products will require **cleaning** of soiled surfaces for the disinfectant to be effective.

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

7. Why do I need to clean surfaces before disinfecting?

Cleaning is done to remove microorganisms, dirt, and impurities from surfaces. Cleaning does not kill microorganisms but reduces the number of organisms present as well as the load of organic materials so that when disinfectants are applied to a surface these can actually kill the microbes.

<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cleaning-disinfection.html>

8. If I use bleach to disinfect, what precautions do I need to consider?

- Bleach is inactivated by organic matter; thus cleaning must be done before applying diluted bleach.
- Diluted bleach is more effective in disinfecting surfaces than the concentrated solution.
- Bleach is corrosive and an irritant. Thus, after allowing a contact time of 5-10 minutes, rinse and dry the treated surface.
- Review the manufacturing date on concentrated solutions (see Clorox explanation (<https://www.clorox.com/how-to/laundry-basics/bleach-101/bleach-expiration-dates/>)). Concentrated Clorox maintains effectiveness for about 1 yr. when stored at room temperature.
- Bleach solutions should be stored in opaque containers and must be made fresh at a minimum of every 24 hours. Bleach rapidly degrades (becomes unstable) in the presence of light and when mixed with water.
- Never dispose of undiluted bleach down the drain. Follow the institutional or manufacturer guidance for disposal of concentrated and diluted bleach.
- Never mix household bleach with ammonia or any other cleanser.

<https://www.clorox.com/how-to/disinfecting-sanitizing/cold-flu-other-diseases/>

9. Can I use heat or steam to disinfect a soft material?

Heat or steam can also be used to sanitize porous surfaces. The surfaces should be heated to 158^o F for five minutes or to 212^o F for one minute. Hot water extraction or steam cleaning are common tools used to achieve these temperatures for non-washable items.

https://www.deschutes.org/sites/default/files/fileattachments/health_services/page/13161/health-best_practices_5-cleaning_and_disinfecting.pdf

10. Are there any disinfectants for use with porous materials or for laundering listed in the EPA List N of registered products?

Table 1 shows examples of EPA List N registered disinfectants expected to kill the coronavirus SARS-CoV-2 (COVID-19) when used according to the label directions.

| EPA Registration Number | Active Ingredient(s) | Product Name | Company | Contact Time (in minutes) |
|-------------------------|---|-------------------------------------|-----------------------------|---------------------------|
| 10324-117 | Quaternary ammonium | Maquat 710-M | Mason | 10 |
| 10772-25 | Sodium carbonate peroxyhydrate; Tetraacetyl ethylenediamine | Oxiclean Laundry and Home Sanitizer | Church & Dwight Company Inc | 15 |
| 777-128 | Quaternary ammonium | Lysol® Laundry Sanitizer | Reckitt Benckiser | 5 |
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NOTE: ABSA International does not endorse any commercial product that is mentioned in this FAQ – product names are only used as examples.

References:

1. CDC-NIH, *Biosafety in Microbiological and Biological Laboratories*, 5th ed.: https://www.cdc.gov/labs/BMBL.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fbiosafety%2Fpublications%2Fbmb15%2Findex.htm
2. Iowa State University, The Center for Food Security and Public Health, *Characteristics of Selected Disinfectants*: <http://www.cfsph.iastate.edu/Disinfection/Assets/CharacteristicsSelectedDisinfectants.pdf>
3. EPA Pesticide Registration, *List N: Disinfectants for Use Against SARS-CoV-2*: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>
4. CDC, *Disinfecting your home if someone is sick, Interim Recommendations for US Households with Suspected/Confirmed Coronavirus Disease 2019*: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cleaning-disinfection.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fprepare%2Fcleaning-disinfection.html