



Safer Cleaning, Sanitizing and Disinfecting Strategies to Reduce and Prevent COVID-19 Transmission

Proper cleaning and disinfecting are important for reducing the spread of COVID-19. This fact sheet provides best practices for cleaning, sanitizing and disinfecting surfaces to prevent the spread of disease while minimizing harmful chemical exposures. These practices focus on the workplace, however they can be applied in any setting. Consult the U.S. Centers for Disease Control and Prevention and the U.S. National Institute for Occupational Health and Safety for the most current information.

Remember, when possible for handwashing and cleaning surfaces, soap and water is always the best option.

Why are we talking about safer practices?



Hazardous chemicals are common in cleaning, sanitizing and disinfecting products.

People using these products, and people in the spaces where they are used, can get sick or develop illnesses, including asthma. Others harm reproductive health or may cause cancer if too much exposure occurs. Some damage skin or other body systems. For example, custodians using cleaning products and disinfectants are most likely to get work-related asthma. Four out of five workers with job-related asthma in the U.S. were in areas during, or right after, cleaning was done.¹



Safer options are available

Look for Safer Choice, Green Seal®, Ecologo® and Design for the Environment (DfE) labels on products.



These labels are on environmentally preferable cleaning products and disinfectants that have a lesser or reduced effect on human health and the environment. These labels have strict requirements and can help you avoid chemicals that have negative impacts.

Key Terms

Cleaner

Removes germs, dirt, and impurities from surfaces or objects. Works by using soap/detergent, water and friction to physically remove dirt and germs from surfaces. Cleaning before disinfecting reduces spreading infection more than disinfecting alone.

Sanitizer

Reduces germs on surfaces to levels considered safe for public health (usually 99.99%). Products must be EPA registered.

Disinfectant

Destroys almost all infectious germs, when used as the label directs on a surface. No effect on dirt, soil, or dust. Should be used where required by law, in high-risk and high-touch areas, or in case of infectious disease. Products must be EPA registered.

Decision Making and Selecting

Disinfectants and sanitizers are regulated as pesticides by the U.S. EPA. If the Design for the Environment (DfE) label is not on the product, use disinfectants and sanitizers that contain ethanol, isopropanol (isopropyl alcohol), hydrogen peroxide, L-Lactic acid, or citric acid. During use of chemicals, ventilate the space with outside air by opening doors and windows, or by bringing in outside air with your air handling system.

Refer to the San Francisco Department on the Environment resource, listed at the end of this fact sheet, for additional guidance on disinfectant ingredients.

Safer Disinfectant Options

Ethanol, isopropanol (isopropyl alcohol)
Hydrogen Peroxide
L-Lactic Acid, Citric Acid

The EPA Design for the Environment criteria for disinfectants/sanitizers is used for defining safer chemicals. "Peracetic acid is sold in solution as a mixture with acetic acid and hydrogen peroxide to maintain its stability, but is highly corrosive and exposure to it can severely irritate the eyes, skin and respiratory system." Paracetic acid is typically sold in concentrations of 1 to 5 percent and is diluted before use in food and healthcare industries.² Try to avoid products containing peracetic acid.



What Else is Important for Product Selection?

- ✓ Cleaning is always the first step. Disinfectants and sanitizers do not work on dirty surfaces.
- ✓ Cleaning is different from sanitizing and disinfecting (see the box on page 1 for definitions). Disinfectants are widely misused and overused, including improper concentrations and solutions. More is not necessarily better - often, cleaning is all that's needed.
- ✓ Personal protective equipment (PPE), such as gloves, may be needed. Refer to the product label or Safety Data Sheet to see if specific protective measures are recommended. You will need to consider if the product is being sprayed into the air (which makes it easier to inhale) or placed on cloths (which can cause skin exposure), as well as how concentrated the product is and if it should be diluted.
- ✓ Dwell or contact time matters for sanitizers and disinfectants. They work only if left on a surface for specified times. See the manufacturers' instructions on the label.
- ✓ Use the right product for the surface! Not all surfaces are the same. For example, what works on fabric may not work on stainless steel. Some products work on bacteria but not viruses. Some must be diluted, such as bleach. Some can be used in sprays; others cannot. Is it certified for your purpose by EPA or another reputable body?

Best Practices for Safe and Effective Cleaning and Disinfecting During a Pandemic

1 Develop a Plan

This applies all the time, whether it's a pandemic or not. Develop and maintain a set of written standard operating procedures for cleaning and criteria for when to sanitize or disinfect. This should include schedules for routine cleaning operations and activities performed periodically.

2 Start by asking: "Do I need to disinfect, and is it necessary?"

If not, use fragrance free soap/detergent and water or an all-purpose cleaner with Safer Choice, Green Seal or Ecologo labels. Soap inactivates the new coronavirus by dissolving the lipid (fatty) membrane that envelops the virus and allows it to stick to our cells. Soap and water, with microfiber cloths or mops can also get rid of 99% of bacteria.

3 Routinely clean all frequently-touched surfaces

These surfaces include workstations, counter tops, light switches, railings, doorknobs, and equipment (such as steering wheels and machinery). Use cleaning agents regularly used in these areas, following directions on the label. Select products with Safer Choice, Green Seal or Ecologo labels. Use a clean surface of the cloth to prevent cross contamination. Alcohol wipes can be used on electronics.

4 Select a disinfectant or sanitizer that contain less hazardous ingredients

If you determine disinfection is necessary, use products registered by the **U.S. Environmental Protection Agency (EPA) List N Disinfectants for Use Against SARS CoV-2, the virus that causes COVID-19:**

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

[Look for DfE products - the Responsible Purchasing Network has made it easy for you!](#) If none are available, look for products containing the safer active ingredients mentioned above.

Avoid sodium hypochlorite (bleach) and quaternary ammonium compounds, if possible; these ingredients can cause asthma. Let disinfectants stay glistening wet on the surface or air dry for the right dwell or contact time on the product's label instructions. Otherwise, resistant germs will remain and grow, which can lead to "superbugs."

5 Provide information and training

Remember, employers must ensure workers are trained on the hazards of the cleaning chemicals used in the workplace in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200). People need to know the right way to use the products and symptoms of possible harm. Protective equipment -- including gloves -- needs to be appropriate for the product. If information isn't on the safety data sheet, call the manufacturer for specific glove materials, or ask an occupational health specialist.

Use accepted best practices and technology for cleaning. For example, perform restroom cleaning from high to low, toward the doorway, and with dry cleaning tasks performed prior to wet cleaning tasks.

6 Evaluate

Evaluate the plan. Get feedback from people using the products and from those in the spaces where they are used.



ADDITIONAL RESOURCES FOR CLEANING AND DISINFECTING

U.S, CDC Coronavirus Disease 2019:

<https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/businesses-employers.html>

EPA List of Disinfectants for Use Against SARA-COV-2 :

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

U.S. EPA's Safer Choice:

<https://www.epa.gov/saferchoice>

U.S. EPA Design for the Environment (DfE):

<https://www.epa.gov/pesticide-labels/design-environment-logo-antimicrobial-pesticide-products>

U.S, NIOSH COVID-19 2019:

https://www.cdc.gov/niosh/emres/2019_ncov.html

San Francisco Department of the Environment:

<https://www.sfapproved.org/microfiber-cleaning-products>

Healthy Schools Campaign:

<https://www.healthygreenschools.org/2020/03/how-to-safely-disinfect-for-coronavirus/>

Healthcare Without Harm:

<https://noharm-europe.org/articles/news/europe/promoting-safer-disinfectants-healthcare-sector>

Informed Green Solutions:

<https://www.informedgreensolutions.org/>

Handwashing to Prevent Illness at School (proper handwashing video)

<https://www.doh.wa.gov/CommunityandEnvironment/Schools/EnvironmentalHealth/handwashing>

Responsible Purchasing Network:

https://osha.washington.edu/sites/default/files/documents/Updated%20Safer%20Disinfectants%20List_March%2026%2C%202020.pdf

Hazards of Using Bleach:

<https://irp-cdn.multiscreensite.com/22c98fa0/files/uploaded/FactSheet-What-s-the-Problem-With-Bleach.pdf>

Green Seal:

<http://www.greenseal.org/>

EcoLogo/UL:

<https://www.ul.com/resources/ecologo-certification-program>

Women's Voices for the Earth:

<https://www.womensvoices.org/>

Connect with us

1. California Work-Related Asthma Prevention Program (<https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/WRAPP/Pages/WRAPP.aspx>)
2. Bechtold K., Versatile and vexing: the many uses and hazards of peracetic acid, *The Synergist*, AIHA, December 12, 2016 (<https://synergist.aiha.org/201612-peracetic-acid-uses-and-hazards>)

University of Washington Department of Environmental & Occupational Health Sciences Continuing Education Programs

COVID-19 Resource Page: bit.ly/DEOHSCOVID

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