



SAFER DISINFECTANT USE DURING COVID-19 FOR CHILDCARE PROVIDERS AND SCHOOLS

Ways to reduce transmission and use safer products

⚠️ WHAT ARE THE CONCERNS?

Traditional disinfectants can contain chemicals with harmful health effects. Children are especially susceptible.

Bleach (sodium hypochlorite):

An acute eye, throat and skin irritant. Causes and triggers asthma.

Quats (quaternary ammonia):

Skin and throat irritants. Have been linked to reproductive harm in animal studies.

🧼 CLEANING VS DISINFECTING

Cleaning gets rid of germs and dirt from surfaces or objects. Cleaning doesn't necessarily kill germs; it reduces their numbers and the risk of infection by just washing germs down the drain. Soap alone is very effective at destroying the new coronavirus. Cleaning can involve washing your hands, using a laundry machine, or using an all purpose cleaner on a surface or object.

Disinfecting, actually kills germs on surfaces or objects by using chemicals. Disinfecting doesn't physically remove germs, but kills them in place. Disinfecting chemicals work by attacking certain parts of the germs and breaking them down.

🧴 SAFER DISINFECTANTS

Safe disinfectant active ingredients that are effective against the virus:

- Alcohol (ethanol or isopropyl)
- Hydrogen peroxide
- L- Lactic acid
- Citric acid

Products with safer ingredients on the [EPA's List N](#) of products registered for use against SARS-CoV-2 include:

- Clorox Commercial Solutions Hydrogen Peroxide Disinfecting Cleaner, Disinfectant, and Wipes
- Diversey's Oxivir TB Ready-To-Use Liquid, Wipes, Five 16, and Diversey's Alpha HP Multi-Surface Disinfectant Cleaner
- Lysol Disinfecting Bathroom Cleaner
- GOJO Industries PURELL Multi-Surface Disinfecting Cleaner, Disinfectant, Wipes, and Surface Disinfectant

🕒 WHEN TO CLEAN

Cleaning should be the first line of defense against germs. Whenever possible, use soap and water to wash supplies, toys, desks, etc. Materials that have been left undisturbed for over a week only need to be cleaned. The EPA specifies that surfaces to be disinfected should be cleaned first.

🕒 WHEN TO DISINFECT

Disinfectants are an important tool for caregivers when the appropriate precautions are taken. Disinfectants should be used on high-touch surfaces like doorknobs and changing tables. Proper use of disinfectants is critical, including how long the surface needs to stay wet (contact time). Follow instructions carefully and ventilate the room as much as possible.

⚠️ DO NOT MIX PRODUCTS

Do not mix cleaning or disinfection products as mixing even common household cleaning products can be very dangerous. For example, bleach and alcohol can create chloroform.

Communicate to caregivers, staff, and teachers to not bring in their own cleaning products, which can contain chemicals with harmful health effects and can lead to inadvertent dangerous mixes. Instead provide them with safer products that they can use throughout the day.



BEYOND DISINFECTING: WHAT CARE PROVIDERS AND SCHOOLS CAN DO TO REDUCE TRANSMISSION DURING COVID-19

INDOOR AIR QUALITY

COVID-19 is primarily transmitted through airborne droplets and aerosols. Therefore, focusing on indoor air quality is critical. Increasing outdoor air ventilation, filtering indoor air, and supplementing with air purifiers reduces the airborne concentration of the novel coronavirus.

- Bring outside air inside through the HVAC system, reducing indoor air that is recirculated.
- When weather permits, prop open doors and open windows to increase air flow.
- Increase air filters to MERV 13.
- Consider putting ozone-free, portable, free-standing HEPA air purifiers in classrooms. The air purifier must be the correct size for the room. Use this [portable air cleaner purification calculator](#) to select the right air purifiers.
- For more information and suggestions, a good resource are [ASHRAE.org](#) and [Schools.forhealth.org](#)

INCREASE HANDWASHING AND SANITIZING

Handwashing with soap should be the #1 priority to reduce transmission among staff and children.

- Create new handwashing routines before entering and exiting new spaces, before and after eating, after using the bathroom and after playing outside.
- Consider placing portable hand washing stations around the facility to increase access for hand washing.
- Consider installing touchless faucets or foot pedal operated sinks.
- Use hand sanitizer when hand washing is not possible. Make sure to store out of reach, especially for younger children.

WHAT TO DO WITH SUPPLIES, TOYS, BOOKS

- Disinfectants are not effective on porous objects. Remove soft toys and objects that cannot be regularly laundered.
- Choose toys and supplies that can be easily washed with soap and water. Designate a bin for toys and supplies that have been used. Ideally these will be cleaned with soap and water, with no disinfecting needed after.
- Rotate different toys or learning materials to only be used once a week. Materials that have been left undisturbed are low risk.
- Create individual supply kits for each child.
- Books and paper goods do not need to be disinfected, but should not be immediately shared among children.

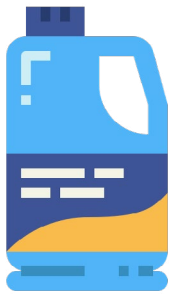
REOPENING GUIDANCE

Follow [CDC](#) and [local health department](#) guidance on temperature and screening procedures, face masks, physical distancing, staggering drop off and pick ups to limit crowding, limiting class and group sizes, and isolation procedures when an individual is sick. Surveillance testing can also be employed to catch asymptomatic positive cases.

SPEND MORE TIME OUTDOORS

The risk for transmission is lower in outdoor settings as it's easier to maintain physical distance, there are fewer surfaces to touch, and sunlight and humidity deactivates the virus more rapidly.

- Set up learning and play spaces outside for small groups
- Consider adding shade structures, seating, portable blackboards.
- Use natural materials, like leaves and sticks for creative activities.
- Ask parents to send layers, extra clothing, hats, etc.
- A good resource for more outdoor learning ideas is [Green Schoolyards America](#)



WHY CHOOSING SAFER DISINFECTANTS AND CLEANERS IS IMPORTANT FOR EARLY CHILDCARE PROVIDERS AND SCHOOLS

! WHAT ARE THE CONCERNS?

Many traditional cleaning products and disinfectants can contain toxic chemicals with harmful health effects. In fact, companies don't have to list all of the chemicals that go into their cleaning products and disinfectants, so it's impossible to know the full extent of what you or your children are being exposed to. Furthermore, chemical residues from products can build up over time. Children are especially susceptible to these harmful chemicals because they're going through important developmental stages and put hands and objects in their mouths. They can also breathe in fumes and absorb chemicals through their skin.

There are two ingredients that pose health risks in disinfectants. Bleach, or sodium hypochlorite, is an acute eye, throat, and skin irritant. It also causes and triggers asthma. Quats, or quaternary ammonia compounds, are skin and throat irritants that have been linked to reproductive harm in animal studies.

There are many other chemicals in cleaning and disinfecting products that are also concerning. Synthetic fragrances often contain phthalates, which can increase risk for asthma, allergies, cancers, disrupt hormones, or impact development. Products can also have high VOCs (volatile organic compounds), or fumes that can cause asthma and headaches and even more serious health effects with prolonged exposure.

GREEN CLEANING

Green cleaning uses safer products and proven methods that are better for human health and the environment. Having a strong chemical smell, which is oftentimes associated with being clean, is not necessary. Thankfully there are newer products that are effective and safe. A simple way to start is to look for products that are third party certified by [EPA's Safer Choice label](#), [Cradle to Cradle](#), [Greenguard certified](#), or [UL Ecologo](#).

Cleaning with a safe all purpose cleaner and water will physically remove dirt, grime, and germs. Routine cleaning reduces the need for specialty products, strong disinfecting chemicals, and future repairs and replacements. Implementing effective cleaning tools, like microfiber cloths and HEPA filter vacuums is also an important part of a green cleaning program. You can find out more about green cleaning for early childhood education facilities and schools with the [Green Cleaning Toolkit](#) from UCSF, UC Berkeley, and Informed Green Solutions.

SAFER DISINFECTANTS DURING COVID-19

There are disinfectants that are as effective at killing germs (including the virus causing COVID-19), without the harmful health effects for children and staff. Look for products with active ingredients like ethanol, isopropyl, hydrogen peroxide, L- Lactic acid, and citric acid. Make sure to carefully read and follow all directions on the product label, and note the contact time. For disinfectants effective against SARS-CoV-2, search for products with safer active ingredients that are on the [EPA's List N](#) of registered products.



HAND WASHING AND HAND SANITIZER DURING COVID-19



WHAT TYPE OF SOAP?

Any soap, liquid or bar soap, works to prevent transmission of the COVID-19 virus. Soap breaks down the fatty layer surrounding virus particles, effectively destroying it. Water helps rinse everything down the drain.

Antimicrobial or antibacterial soap is not necessary. There is no evidence it helps reduce germs more than plain old soap.



HAND WASHING OR HAND SANITIZER?

Hand washing is always preferred to hand sanitizer. The CDC recommends washing with soap and water because it reduces and removes all types of germs and chemicals on hands. Wash your hands when you cook, eat, use the bathroom, change diapers, blow your nose, cough, sneeze, care for others or animals, and upon returning home.

Hand sanitizer is great when you can't wash hands such as when you're out running errands or in your car. However, it isn't as effective at killing certain types of germs or if your hands are dirty or greasy. Also, hand sanitizer does not remove harmful chemicals, like pesticides, flame retardants, or lead dust on hands.



HAND SANITIZER

Make sure you use a gel or spray hand sanitizer with at least 60% alcohol (ethanol or isopropanol).

How to Use Hand Sanitizer Properly

- Use enough product to completely wet all areas of your hands.
- Rub for at least 20 seconds or until your hands feel dry.



Other Things To Look Out For

- Avoid sanitizers with synthetic fragrances. These products often contain phthalates, which are chemicals that disrupt hormones
- Make sure that kids do not have unsupervised access to hand sanitizer. There has been a large increase in calls to Poison Control Centers due to accidental ingestion.
- Do not spray disinfectants or cleaning products on your hands or body. These are only meant for use on surfaces.



HOW TO WASH YOUR HANDS

Proper hand washing reduces germs and prevents transmission of the COVID-19 virus and other sicknesses too.



1. Wet your hands with either warm or cold water and then apply soap.



2. Lather your hands by rubbing them vigorously together with the soap. Make sure to scrub the back of your hands, in between your fingers, and around and under your nails. Don't forget your thumbs too. Lathering and scrubbing helps lift dirt, grease, and germs from your hands.



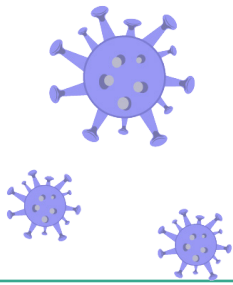
3. If you scrub in every nook and cranny it should take you at least 20 seconds. You can count or learn a tune that is about 20 seconds long. "Happy Birthday" from beginning to end twice is about 20 seconds.



4. Rinse your hands well under running water. Water washes away the dirt, grease, and germs.



5. Dry your hands using a clean towel.



SAFER CLEANING AND DISINFECTING RESOURCES FOR CHILD CARE FACILITIES AND SCHOOLS DURING COVID-19

GENERAL INFORMATION

- [WHO: Q&A on coronaviruses \(COVID-19\)](#)
- [US Government Coronavirus website](#)
- [CDC: Coronavirus](#)
- [Johns Hopkins University: COVID-19 Tracker](#)
- [Prevent Epidemics: COVID-19 Weekly Science](#)

GREEN CLEANING

- [EPA: Green Cleaning, Sanitizing, and Disinfecting: A Toolkit for Early Care and Education](#)
- [UCSF: Green Cleaning, Sanitizing and Disinfecting: A Toolkit for Early Care and Education](#)
- [Informed Green Solutions](#)
- [Healthy Schools Network: Green Cleaning for Healthy Schools Toolkit](#)
- [Green Schools Initiative: Cleaning for Asthma Safe Schools](#)

SAFER DISINFECTANTS AND COVID-19

- [CDC: Cleaning and Disinfection for Community Facilities](#)
- [CDC: Cleaning and Disinfection for Households](#)
- [EPA: List N: Disinfectants for Use Against SARS-CoV-2 \(COVID-19\)](#)
- [EPA: Design for the Environment Logo for Antimicrobial Pesticide Products](#)
- [Western States Pediatric Environmental Health Specialty Units: Safer Disinfecting During the COVID-10 Pandemic](#)
- [University of Washington: Safer Cleaning, Sanitizing and Disinfecting Strategies to Reduce and Prevent COVID-19 Transmission](#)
- [Toxics Use Reduction Institute, University of Massachusetts Lowell: Safely Clean and Disinfect](#)
- [SF Approved Safer COVID-19 Cleaning Products and Disinfectants](#)
- [SF Environment Safe Effective Cleaning and Disinfection for Everyone Factsheet](#)
- [Responsible Purchasing Network: COVID-19 Updated Safer Disinfectants List](#)
- [California COVID19 Industry Guidance: Childcare Programs and Providers](#)- Specific mention of selecting disinfectant products on the N list with asthma-safer ingredients (hydrogen peroxide, citric acid or lactic acid).
- [Reopening Washington Schools: District Planning Guide](#)- Specific mention of selecting safer disinfectants
- [Green Seal How to Safely Disinfect for Coronavirus](#)

CHILDCARE AND SCHOOL REOPENING GUIDELINES

- [CDC: Reopening Guidance for Cleaning and Disinfecting Public Spaces, Workplaces, Businesses, Schools, and Homes](#)
- [CDC: Public Health Considerations for Reopening Schools During the COVID-19 Pandemic](#)
- [CDC: Public Health Considerations for Reopening Child Care During the COVID-19 Pandemic](#)
- [CDC: Guidance for Child Care Programs that Remain Open](#)
- [AAP: COVID-19 Planning Considerations: Guidance for School Re-entry](#) (also mentions safer disinfectants)
- [California COVID19 Industry Guidance: Childcare Programs and Providers](#)
- [California COVID19 Industry Guidance: Schools and School Based Programs](#)
- [Healthy Buildings for Health at the Harvard TH Chan School of Public Health: Risk Reduction Strategies for Schools](#)
- [Ashrae: COVID-19: Resources Available to Address Concerns HVAC, ventilation, air purifier guidance](#)
- [Green Schoolyards: Covid Outdoor Learning](#)
- [School Reopening Guidelines By State](#)