

# CLEANING TO FIGHT COVID-19

## IN SCHOOLS AND AT HOME

BY DOROTHY WIGMORE



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The times are fascinating, scary and overwhelming, as the COVID-19 pandemic sweeps around the world. Like many other workplaces, schools are closed, and it is not clear, as of press time on April 15, when they will re-open.

Whatever we're doing, we hear "disinfect" a lot, as one way to reduce spread of the novel coronavirus. Too often, that advice ignores the hazards of common products and the protective measures needed for toxic ones. The differences between cleaning, sanitizing and disinfecting are not often made clear.

### WHAT TO KNOW ABOUT CLEANING AND OTHER PRODUCTS

Whether you're a custodian still on the job, providing food to students, or a security guard, there are important things to know about cleaning, sanitizing and disinfecting. The same applies if you're at home.

**1. Hazardous chemicals are common** in cleaning, sanitizing and disinfecting products. People using them, and those in the spaces where they are used, can get sick or develop diseases over time. Some cause or trigger asthma. Others harm reproductive health or may cause cancer. Some damage skin or other body systems.

For example, custodians using cleaning products (including disinfectants) are the most likely of any workers to get job-related

asthma. A California study found that four of five people with work-related asthma were in areas during or right after cleaning was done. Children are more easily affected by hazards, given their growing bodies and smaller sizes.

**2. Cleaning, sanitizing and disinfecting are different.** See the box below for definitions of each. Disinfectants are widely misused and overused. Often, cleaning is all that's needed, even in a pandemic. It is always the first step before sanitizing or disinfecting; otherwise the latter efforts won't work.

**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.

Just as important, products are designed for specific purposes.

- Surfaces matter. For example, what works on fabric may not work on stainless steel.
- Some disinfectants work on bacteria but not viruses. Not all anti-bacterial products kill viruses.
- Many products must be diluted.
- Some products are sprayed, which makes it more likely users will inhale the vapors. This may also be true of electrostatic sprayers.
- Is it certified for your purpose by the U.S. Environmental Protection Agency (EPA) or a trustworthy organization (e.g., for viruses, not bacteria)?

3. There are other choices. It's good to start by asking "Is it necessary?" You don't need fragrances or "anti-bacterial" products. Both harm people and the environment and add little or nothing to the product's effectiveness.

"Environmentally preferable" products are better than others with the same purpose. For cleaners, Green Seal and Ecologo offer third-party certification labels with strict requirements. The EPA's Safer Choice program is another eco-label.

Disinfectants and sanitizers are supposed to kill viruses and bacteria, so they don't get those labels. Instead, they are regulated by the EPA as pesticides. Less hazardous ones are found in its Design for Environment (DfE) category. These kinds of certified "green" products can contain one-third fewer harmful chemicals than traditional ones.

To prevent COVID-19 spread, hand sanitizers are less effective than regular handwashing with soap for at least 20 seconds.

Using stricter criteria, San Francisco's Environment Department recommends registered disinfectants that are much less toxic. Unlike the EPA, their criteria say the products cannot contain quaternary ammonium compounds, sometimes called quats (look for "ammonium chloride"), or alkylphenol ethoxylates. Among other things, these chemicals can cause asthma and reproductive harm, respectively.

## Resources

### New Jersey Department of Education

- "School Preparedness and Emergency Planning," [nj.gov/education/schools/security/plan](http://nj.gov/education/schools/security/plan)
- "Novel Coronavirus (COVID-2019)," [nj.gov/education/topics](http://nj.gov/education/topics)

### New Jersey Department of Health

- "COVID-19: Information for schools and businesses," [nj.gov/health/cd/topics/covid2019\\_schoolbusiness.shtml](http://nj.gov/health/cd/topics/covid2019_schoolbusiness.shtml)

### Responsible Purchasing Network

- "Green purchasing: Opportunities and best practices," [bit.ly/rpngreenpurchase](http://bit.ly/rpngreenpurchase)
- Cleaners/disinfectants, [bit.ly/rpncleaners](http://bit.ly/rpncleaners)
- Safer disinfectants on EPA's list of recommended antimicrobial products for use against novel human corona virus", [bit.ly/deohs-clean](http://bit.ly/deohs-clean)

### NEA and Healthy Futures

- "Cleaning, sanitizing, and targeted disinfecting school wide: tips for custodians and maintenance staff", [bit.ly/nea-hf](http://bit.ly/nea-hf).

### Healthy Schools Network

- "Green cleaning for healthy schools toolkit," [bit.ly/healthyschoolsgreen](http://bit.ly/healthyschoolsgreen)

### California Department of Public Health

- "Cleaning for asthma-safer schools," [bit.ly/asthasafeschools](http://bit.ly/asthasafeschools)

### California/OSHA

- "Safety & health guidance. COVID-19 infection prevention in childcare programs," [bit.ly/caloshachild](http://bit.ly/caloshachild)
- Aerosol Transmissible Diseases standard, [bit.ly/aerosolcalif](http://bit.ly/aerosolcalif)

### New York State

- "Green cleaning program", <https://greencleaning.ny.gov/Entry.asp>

### Informed Green Solutions

- "The green cleaning, sanitizing and disinfecting toolkit," [informedgreensolutions.org/toolkit](http://informedgreensolutions.org/toolkit)
- Other information about bleach, microfiber materials and cleaning for schools and child care, [informedgreensolutions.org](http://informedgreensolutions.org)

### Other resources

- "Single use, splash-resistant gloves," Health and Safety Executive, [hse.gov.uk/skin/posters/singleusegloves.pdf](http://hse.gov.uk/skin/posters/singleusegloves.pdf) (Removing gloves safely)
- "Coronavirus: Resources for workers," National Council for Occupational Safety and Health, [nationalcosh.org/coronavirus](http://nationalcosh.org/coronavirus)

### For homes

- Environmental Working Group (EWG): Guide to healthy cleaning. [ewg.org/guides/cleaners](http://ewg.org/guides/cleaners)
- Women's Voices for the Earth: Disinfectant overkill. [bit.ly/disinfectant-overkill](http://bit.ly/disinfectant-overkill)
- Women's Voices for the Earth: "Safer disinfecting at home in the times of coronavirus" (also in Spanish), [bit.ly/wvesafercovid](http://bit.ly/wvesafercovid)

### For other issues, including stress:

- NJEATogether: NJEA's COVID-19 resources all in one place: [njeatogether.njea.org](http://njeatogether.njea.org)
- AID-NJEA: The union's 24-hour phone line for professional or personal concerns, not just mental health/stress: [njea.org/aidnjea](http://njea.org/aidnjea)

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#### 4. Data sheets can provide information.

Good data sheets list all the ingredients, describe harm they can cause, and have specific protective measures and equipment required.

#### 5. Protection to prevent or reduce harm may be needed.

Before deciding about personal protective equipment (PPE), consider if the product is being sprayed or used on cloth (it can get on bare skin). Is it a concentrated form that must be diluted? If so, it's best to use a closed-loop system to dilute the product. PPE must fit and protect you from the chemicals. You also need to be trained about the hazards and its use and disposal.

### SAFER WAYS TO CLEAN AND DISINFECT

What's best to use to clean, sanitize and/or disinfect in these pandemic times or in a school when it re-opens?

**1. Choose the least toxic products or methods,** for the health of children especially. The most hazardous ingredient should guide these decisions. Consider less toxic options.

For cleaning, use soap or detergent and water or microfiber materials instead of chemical products. With plain water, microfiber materials can get rid of 99% of bacteria. If you use microfiber materials, try a color coding system with multiple cloths/mop covers so you don't cross-contaminate (e.g., clean the bathroom, then another room).

For workplace options, use resources like San Francisco's SFApproved ([sfapproved.org](http://sfapproved.org)) and Informed Green Solutions ([informedgreensolutions.org](http://informedgreensolutions.org)). They make it easy. They have reviewed cleaning products with eco-labels, and disinfectants/sanitizers with EPA's DfE approval, using more health-protective criteria. You can use those same kinds of products at home; also check SF Approved's Guide for Small Businesses and Homes, Women's Voices for the Earth and the Environmental Working Group. (See resources sidebar.)

#### 2. Employers must provide information and training

with the proper equipment for using the products or methods and preventing or reducing harm. People need to know the right way to use the products and symptoms of possible harm. Protective equipment—including gloves—needs to be right for the product. If information isn't on the data sheet, call the manufacturer for specific glove materials, or ask an occupational health specialist.

**3. Develop a plan** for regular cleaning, and criteria about when sanitizing or disinfecting is needed, and where. This applies whether it's a pandemic or not.

**4. Carry out routine cleaning, especially for frequently-touched surfaces.** They include classroom and lunchroom tables/desks and chairs, countertops, light switches, railings, door handles and push plates, shared equipment, equipment handles, and faucets. Use the regular products (hopefully less toxic ones). The New Jersey Department of Health says, "Schools should follow standard procedures for routine cleaning and disinfecting with an EPA-registered product."

If no one has been in schools after the last cleaning, sanitizing and/or disinfecting, they do not need anything more than a good cleaning when they re-open, unless mold is present. Use microfiber materials and/or the least toxic products possible.

"Return to school strategies are important," says Darryl Alexander with the National Council for Occupational Safety and Health (National COSH), and a former health and safety education union official. "They need appropriate general cleaning and disinfection using the latest guidelines. They don't need deep cleaning, whatever that means. If no one has been in the school, they don't need disinfection."

For food workers still on the job, the current advice is that the usual sanitizing and cleaning procedures should be fine even during the pandemic. Add extra hand-washing as required and physical distancing from others. Put food out in bags for pickup, and let those collecting them know you are practicing good hygiene. Set up and enforce plans about food delivery that respect distancing and hygiene practices, including disposable nitrile gloves (with an appropriate closed container for disposal).

**5. When disinfecting** (on frequently-touched surfaces only), start with products with EPA's DfE label. Use ones that attack viruses, not bacteria. If possible, use San Francisco recommendations for disinfectants with the "active ingredient" **hydrogen peroxide, citric acid, lactic acid, or caprylic acid.** They are effective and less hazardous for human



health and the environment. If possible, avoid quats and bleach (sodium hypochlorite), as they can cause/trigger asthma.

If nothing else is available, prepare 0.1% new bleach solutions daily using about one-third of a teaspoon of bleach in a quart of water, says the European Centre for Disease Prevention and Control. Bleach harms textiles and metals, so it's best used on hard, non-porous surfaces. It also should never be mixed with ammonia or other chemicals; the resulting gases can kill.

"However, you can disinfect a surface, and it can be easily be contaminated by droplets from an infected person moments later," Alexander says. "I would say just clean a lot, with good nontoxic general cleaners and microfiber cloths."

More is not better. Follow instructions about diluting products. If products are in concentrated form, closed loop systems are best to prepare what's actually used. Otherwise, you need protective gear (e.g., gloves, respirator, goggles) to deal with possible spills and splashes.

Avoid spraying if possible. It gets chemical droplets in the air, increasing the odds you or others will inhale it, or it will irritate skin or eyes. This is particularly true for bleach, if anyone has breathing issues. Foggers are worse for workers than spraying, especially when they're used with products that are not designed to be applied that way or on surfaces that aren't right for that method.

"Fogging is a practice that shouldn't be used," Work Environment Council hygienist Dave Newman says. "It's like bombing the room with pesticide."

Always let the disinfectant stay **glistening wet** on the surface or air dry for the right dwell or contact time, according to the instructions. Otherwise, resistant germs will remain and grow. Most dwell times are from five to 10 minutes (e.g., bleach is 10).

Microfiber materials may be useful with small amounts of disinfectant to deal with viruses. They certainly can be used to wipe up after disinfecting.

"Remember these are pesticides," Newman says. There's a lot of bad pesticide use that's dangerous for people. Do a good cleaning and be really careful if you're using disinfecting products. Make sure you're using precautions for the workers, not leaving residues that could be harmful, doing it in a way that's approved, with the right contact time and on the surface for which it's been approved."

For food service, microfiber materials also are better for wiping food surfaces, along with cotton-cellulose cloths. They transfer many fewer viruses than nonwoven cloths or cotton terry bar towels.

**6. Use the right PPE and get trained about putting it on and taking it off.** Custodians should wear disposable nitrile gloves and a surgical mask, plus eye protection or a face shield. The last two help if people inadvertently touch their face with contaminated hands and fingers (gloved or not);

the mask will not protect you from the chemicals themselves.

Security guards and others who are at least six feet away from people generally do not need respirators or other protective gear—although they may decide to use nitrile gloves that can be changed regularly. Closer to people, they need a face shield, N95 or regular (elastomeric) respirator with a particle filter and nitrile gloves.

If you do wear a respirator, it needs to be tested on you to ensure it fits. Some types of facial hair stop them from working properly. The Centers for Disease Control provides a chart that offers guidance on facial hair and respirators. You can view it at [bit.ly/maskfacialhair](https://bit.ly/maskfacialhair).

Taking gloves off safely to avoid contamination requires practice. See the resource list for specific instructions. It's a good idea to wash hands with soap and water before and after using gloves.

If the PPE fails in some way (e.g., gloves tear), stop work and report this to your supervisor.

"Always read the label," says Claire Barnett from the Healthy Schools Network. "Always make sure you've got gloves and the right protective gear. Insist on third-party certified green products for

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hard surface cleaners to protect your health and that of others."

"At home, we recommend that they come up with a cleaning plan to clean frequently-touched surfaces, all around the house," Alexander says. "When they decide they need to disinfect an area, we recommend using a very mild disinfectant because this virus is easily destroyed, so they don't need to use a massive amount of disinfection." She also recommends opening windows.

#### WHAT LOCAL ASSOCIATIONS CAN DO

Local association leadership should work with health and safety committees to:

- Ask for the district's written pandemic response plan (the "emergency response plan"—required by New Jersey Administrative Code 6A:16-5.1—must be posted on district websites) and all written policies/procedures that may be relevant in a pandemic.

- Review the plan to ensure it effectively protects members who are expected to report to a school or district worksite, and that the district is not overly broad in its interpretation of who must report.
- Ensure anyone who is still reporting to a worksite has the necessary protective gear and supplies, including receptacles for disposal of wipes and tissues
- Ensure custodians and maintenance staff, and others still working on school properties are properly trained about the hazards of the products they use, the protective measures needed, instructions about how to use and clean/disinfect and dispose of them, and the fitting tests needed for respirator use (if required).

As local association health and safety committees consider what members may be facing right now and to prepare for an eventual return to school, they can:

- Find out what custodians and other district staff are provided for cleaning and disinfecting, and health and safety questions they have.
- Learn about, or brush up on, the relevant regulations including: OSHA bloodborne pathogens ([bit.ly/oshabpp](https://bit.ly/oshabpp)), OSHA personal protective equipment ([bit.ly/oshappe](https://bit.ly/oshappe)), and Respiratory Protection Standard ([bit.ly/osharps](https://bit.ly/osharps)), and share the information with local leadership and members.
- Check manufacturers' websites for lists of cleaning ingredients and data sheets required under California law.
- Look for hazard information about specific ingredients at [chemhat.org](https://chemhat.org) or [ristciox.istas.net/en/](https://ristciox.istas.net/en/) (also available in Spanish)
- Checking resources below for the least toxic products possible and support members getting and using them, as well as the PPE they need.
- Staying in touch and hold virtual meetings using Webex, Zoom, conference calls or other electronic means.
- In the longer-term, push districts to establish "responsible purchasing" and "environmentally preferable" policies for cleaning and other products (see resources sidebar).
- In costing those policies, demand employers include current protective measures and equipment, training, workers' compensation and replacement measures when someone gets sick or hurt, etc. (i.e., what does the "problem" cost).