



WEC, NJEA, HSN Alert

Disinfecting

can be hazardous to all staff & students

The problem

“Hygiene theatre” can make people sick instead of protecting their health. Disinfectants are mis-used and over-used in this pandemic.



Although surface transmission is not a significant route for the SARS-CoV2 virus,¹ “clean and disinfect” has become the mantra. Sustained contact with exhaled particles in the air is one of the main transmission routes of the virus behind COVID-19. Indoor environments, especially without good ventilation, increase the risk.

Disinfecting introduces toxins into the indoor environment and increases antimicrobial resistance. Regulated as pesticides by the EPA, these powerful chemicals (“active ingredients”) are designed to destroy bacteria, viruses, fungi, and parasites. They make up a small percentage of a product, which is filled with other “inert” chemicals that can be hazardous on their own.

The EPA List N includes about 500 disinfectant products approved for use against SARS-CoV-2.² All of them are hazardous to human health; many are hazards to the environment.

Bleach (sodium hypochlorite) and quaternary ammonium compounds (“quats”) are the two most common active ingredients; they cause respiratory effects, including asthma. Other disinfectants on the list can cause endocrine disruption, reproductive harm, eye damage, neurotoxicity, cancer, skin irritation, allergies and burns.

Disinfectants are hazards to those using them and others in the spaces where they are used (e.g. triggering asthma). They remain hazardous for varying times after being applied, especially if they are sprayed.

Various disinfecting devices on the market have the potential to make things worse. Electrostatic sprayers, hydrogen peroxide vaporizers, and ozone, hydroxyl or bipolar ionization devices are marketed as time-saving and effective against SARS-CoV-2.

However, these devices lack the independent and time-tested evidence required to prove their effectiveness and safety. EPA approves few devices for use with their registered products. If workers are using these devices, they must be trained on the device and chemical.



Recommended actions

Request site-specific written details about cleaning and disinfecting criteria, procedures, products and staff to be involved. Insist the union’s health and safety committee or local association have a say about what is used, when and where, and by whom.

Start by asking – *Is it necessary?* Remember, surface transmission is not a significant route for transmission, and this virus is disabled by soap and water. Fragrance-free soap or all-purpose detergent should be sufficient except in healthcare or high-risk settings.

If disinfecting must be done – *Are we using the least-toxic approved disinfectants available?* Choose products carefully:

- Obtain and review safety data sheets and labels
- Use these documents to check product ingredients and hazards, application methods, and if the application device has an EPA establishment number
- Check how products are to be applied, how long they must remain on a surface, re-entry times after application, and protective gear needed
- Ensure products have active ingredients on EPA’s N List, **and** the EPA’s Design for Environment (DfE) list of less toxic antimicrobials³
- Find lists of all ingredients and check hazards against independent product lists (see resources)



¹ CDC’s COVID Transmission Update. May 22, 2020. <https://www.cdc.gov/media/releases/2020/s0522-cdc-updates-covid-transmission.html>

² EPA List N. <http://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

Solutions

Start by advocating that schools **prioritize** cleaning with soap and water **more frequently** and that schools limit disinfectant use. Advocate for clear criteria about where and when it is done, and by whom? **Employers** must supply products, not staff; **children must never** use disinfectants (EPA prohibits it⁴).



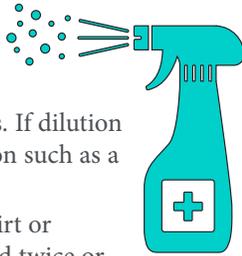
If disinfectants must be used, push for **least toxic ingredients**. Start with the seven on EPA's DfE list.

Narrow it down:

- Avoid peracetic acid with hydrogen peroxide (this mixture triggers asthma)
- Choose products with ethanol, isopropanol, hydrogen peroxide, l-lactic acid or citric acid
- Look for products independently certified to contain fewer toxic chemicals (Cradle to Cradle's silver or gold levels, Green Seal, Safer Choice; avoid Ecologo which allows quats)
- Check information from independent organizations (see resources)
- Do not use foggers, misting or ion-related devices such as bi-polar ionization.

Advocate for best practices:

- Where possible, avoid concentrated disinfectants in favor of dilute solutions. If dilution is necessary, use local exhaust ventilation such as a fume hood
- Clean surfaces beforehand to remove dirt or grime (all-in-one products must be used twice or disinfectants will not work)
- Use fragrance-free soap and water with microfiber materials to clean surfaces
- Target only areas where and when needed, evaluating needs regularly
- Never mix products, to avoid deadly gases and other hazards
- Apply disinfectants in unoccupied spaces, with effective ventilation and re-entry criteria
- Avoid over-spray by pouring or spraying liquid directly onto wiping cloth
- Use microfiber materials (the best ones are 0.13 "denier," but the smaller the better)



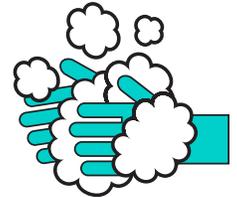
- Follow "dwell time" requirements (usually three to 10 minutes)
- Maximize ventilation during and after disinfecting to avoid accumulating vapors in the air
- Clearly communicate information about safe re-entry times for other staff and students
- The employer provides effective, fitted protective gear for cleaning and disinfecting



If someone with the virus has been in a room, wait 24 hours before entering or cleaning. If the room has been unoccupied for one week, **disinfecting is not needed**.⁵

Whatever is used, workers have a **right to know** about the hazards of what's used in their workplace. Employers must:

- make available safety data sheets and labels
- supply all necessary protective equipment
- effectively train workers about
- how to use personal protective equipment
- hazards and protections needed
- dilution methods
- specific surfaces to target
- allowing required dwell time



Resources

Informed Green Solutions

<https://www.informedgreensolutions.org/covid-19-information>

Massachusetts Toxics Use Reduction Institute

https://www.turi.org/Our_Work/Cleaning_Laboratory/COVID-19_Safely_Clean_Disinfect/Safer_Cleaning_and_Disinfection_for_Schools

Responsible Purchasing Network

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

San Francisco Environment Department

www.sfapproved.org

³ EPA's Design for the Environment (DfE) for "antimicrobials". <https://www.epa.gov/pesticide-labels/design-environment-logo-antimicrobial-pesticide-products>

⁴ EPA: Are disinfectants harmful to children? Can children apply disinfectants? <https://www.epa.gov/coronavirus/are-disinfectants-harmful-children-can-children-apply-disinfectants>

⁵ CDC's Cleaning and Disinfecting Your Facility. May 2020. <https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html>