

Choosing Cleaners, Sanitizers, and Disinfectants: What Schools and Other Institutions Should Consider

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We are all familiar with cleaners, those handy products that help us remove visible debris, dirt, and dust from surfaces. Cleaners play an important role in building maintenance, but they cannot consistently eliminate disease-causing microorganisms (pathogens), such as bacteria and viruses on surfaces. Sanitizers and disinfectants are the *antimicrobial* products made to destroy those. Disinfectants are used to help halt the spread of infectious illnesses, such as colds, flu, norovirus, and resistant organisms such as [MRSA](#). These infectious illnesses and outbreaks can devastate student or worker attendance and productivity in any institution.

“Green cleaners” are cleaners that are designed to present a lower health and environmental risk than alternative products, according to various standards, and still get the job of cleaning done. There are now “green” versions of sanitizers and disinfectants too. Examples of these include antimicrobial products that feature the U.S. Environmental Protection Agency’s (EPA) [Design for the Environment \(DfE\) logo](#) on their labels. EPA lists seven [approved active ingredients](#) that qualify for the DfE logo. The logo indicates EPA has reviewed the product, including test data that demonstrate the product’s effectiveness on hard, nonporous surfaces, and found the product to meet DfE standards. This article offers guidance to schools and other institutions on choosing appropriate products to meet their particular maintenance needs.

Sanitizing and Disinfecting

Sanitizing a surface lowers the number of invisible pathogens to a level determined by public health requirements; sanitizing generally destroys 99.999% of bacteria in a specified time, known as the “contact time,” during which the liquid product must remain moist and in contact with the surface. When used according to manufacturer’s instructions, disinfecting steps up the killing of pathogens, destroying nearly all of the pathogens on surfaces, with the exception of bacterial spores (for which we have *sterilants*, but that’s a topic for another day). In short, sanitizing or disinfecting is very different from cleaning.

Sanitizers and disinfectants are regulated by EPA under the lengthy title of the Federal Insecticide, Fungicide and Rodenticide Act (“FIFRA”). This law helps ensure that if all EPA-registered product use directions are followed to the letter, pathogens will be destroyed as stated on the label. That’s good news when institutions are confronted with outbreaks of infectious illnesses such as seasonal flu and norovirus. That’s when frequently touched environmental surfaces in institutions, such as hand rails, door pulls, and exercise equipment, should be treated with the appropriate antimicrobial product. And there’s more good news: all EPA-registered sanitizers and disinfectants are *safe* to use when product label use and storage directions are followed. An example of this is EPA-registered chlorine bleach.



All EPA-registered antimicrobial products, including those sporting the DfE logo, display an EPA registration number on their labels. In order to achieve EPA registration, manufacturers must submit data that demonstrate their product does indeed destroy the pathogens as listed on the label when used according to label directions.

A Checklist of Factors to Consider When Purchasing Sanitizers and Disinfectants

To help school boards and institutional administrators choose the products they will use to control the spread of infectious illnesses in their buildings, we recommend considering the following questions:

- ✓ Is the product EPA-registered?

If the product is registered with the EPA under FIFRA, you can be assured that the product will sanitize or disinfect according to the claims on the label, provided the manufacturer's directions are followed. All EPA-registered products will have an EPA registration number on their labels.

- ✓ Is the product effective against target pathogens during outbreaks? How about during routine maintenance?

*If a school athletic department has an outbreak of MRSA, the disinfectant applied to surfaces in that department should be capable of destroying MRSA on surfaces when used according to label directions. Similarly, bathrooms should be disinfected using products that destroy enteric pathogens, and kitchens sanitized to destroy the most common food-contact surface pathogens, such as *E. coli* O157:H7, *Salmonella*, and *Listeria monocytogenes*.*

- ✓ Can the product be used in such a way as to minimize exposure to maintenance staff, students, teachers, and administrators?

Ideally, the product will be used after hours and with appropriate ventilation. Maintenance staff should apply personal protective equipment if indicated in product safety data sheet or product label directions.

- ✓ Will maintenance staff require training to use the product correctly?

Training should be made available to maintenance staff if directions for use are new or complex. Maintenance staff should have access to safety data sheets in a language they understand for all products in use.

- ✓ Does the product require a practical wet contact time with surfaces?

Given busy work schedules and competing demands for their services, it is generally unrealistic to expect maintenance staff to ensure contact times of over 5 minutes. Lengthy contact times may require rewetting of surfaces, resulting in potential scheduling disruptions.

- ✓ Is the product cost in alignment with budget expectations?

Cost is a legitimate consideration as institutional budgets are generally "zero sum games." What other aspect of the school or institution's maintenance or functioning will be negatively impacted by purchasing costly "green" sanitizing and disinfecting products? Is the trade-off justified? Importantly, sanitizing and disinfection should never be compromised because facilities cannot afford products that are labeled "environmentally preferred."

Institutional maintenance product choices impact both the health of building occupants as well as the health and day-to-day activities of maintenance staff. Armed with the clarifications provided here on products and programs, we hope purchasers of institutional maintenance products will be equipped to make smart decisions.

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