

# Ask the expert: Veterinary disinfectant cleaners

By Chris Quinlan, BSc  
For The Education Center

## Q: What's the difference between cleaning, sanitizing, disinfecting, and sterilizing?

**A:** Cleaning is the process of removing contaminants (dirt) from surfaces. Cleaners are designed to help us remove dirt by breaking it free from surfaces. Removal is key to effective cleaning. Sanitizing, disinfecting, and sterilizing are terms used by the EPA for a product's level of germ-killing ability or efficacy. Each level has a specific contact time and concentration of active ingredient on a surface to achieve the desired efficacy. Sanitizing has a short contact time and kills fewer germs, and is recommended for food contact surfaces. Sanitizers don't contain any perfumes or detergents that would need to be rinsed. A sanitizer should be used on food bowls after cleaning and rinsing is completed.

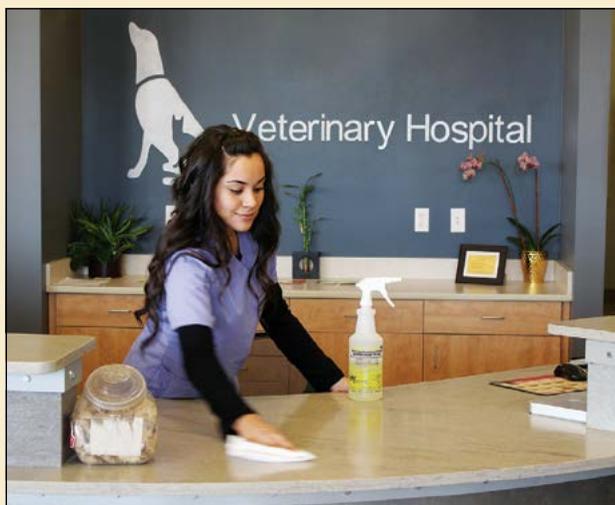
Sterilizing has a longer contact time and a much stronger active ingredient, but kills all forms of microorganisms. This level of efficacy is required for anything that comes in contact with the inside of the body. Disinfecting is in between and has the desired level of efficacy required for environmental sanitation. The ideal cleaner for an animal hospital is a cleaner disinfectant deodorizer that removes dirt, kills germs, and neutralizes odors. A CLEANER DISINFECTANT DEODORIZER has been designed to kill or REMOVE 100 percent of vegetative microorganisms on environmental hard surfaces.

## Q: Do all cleaner disinfectant deodorizers need to be rinsed or recovered from surfaces?

**A:** Any product label that states to clean, as well as disinfect, has been designed to be rinsed, wiped, or removed in some way. Cleaners break up, disperse, and suspend dirt stuck on surfaces with detergents, which is the first part of the cleaning disinfecting process. Rinsing away, wiping up, or recovering dirt and germs is the second part to effective cleaning and disinfecting. Remember that cleaning is the removal of dirt and germs from surfaces, and is critical for effective disinfection. If you are told a cleaner disinfectant deodorizer does not need to be rinsed or recovered, this should give you pause. A truly clean surface that is safe for our four-legged patients to come in contact with is free of dirt, germs, and DETERGENTS. Just because a germicidal active ingredient in a cleaner disinfectant deodorizer becomes inert does not mean wiping, rinsing, or recovery is not required to be safe for patient contact.

## Q: Does the way I dilute my cleaner disinfectant deodorizer make a difference to the way it works?

**A:** The way a cleaner disinfectant deodorizer is mixed makes a huge difference in both cleaning ability and efficacy on surfaces. The greater the amount of concentrate that is mixed with water, the stronger the product becomes at its reconstituted usable solution. By increasing the concentration of cleaner disinfectant with the water it is mixed with, we are basically increasing both the detergent and active germicidal ingredient dose. A cleaner disinfectant that is mixed at 2 oz. per gallon of water makes a stronger cleaner and stronger germicide than one that is diluted at half an ounce per gallon of water. The correct dilution is determined by the desired application. Consider the following: Cleaning and disinfecting surfaces that have a high soil load (e.g. kennels and cages) would call for



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the stronger usable solution. Surfaces such as hospital floors that are being mopped several times a day with a cleaner disinfectant—but not rinsed or recovered—require a concentration of half an ounce to a gallon of water. Cleaner disinfectants mixed at this high a dilution are designed to disinfect surfaces, but not leave behind much detergent if not rinsed or recovered. Using cleaning disinfecting solutions that are mixed too strong and not rinsed or recovered may cause sticky floors or possibly contact dermatitis with our patients due to the excessive detergent left behind. A difference between human health care and animal health care is that our four-legged patients come in direct contact with the surfaces on which we are using the cleaner disinfectants.

## Q: What if there is still a bad smell even after the surface is cleaned?

**A:** Many times, a persistent odor exists because we are using a cleaner that is not a disinfectant deodorizer that may clean well, but has no active ingredient to kill odor-causing germs. Switching to a cleaner disinfectant deodorizer eliminates the source of the persistent odor every time you clean. Using bleach or hydrogen peroxide cleaner disinfectants is not recommended by environmental sanitation experts because these products lose the ability to kill germs after a short period of time and are corrosive to surfaces. Using them incorrectly may be the cause of a persistent odor problem. Mixing bleach with a separate cleaner is also a big no-no because that changes the bleach's alkali pH needed to kill germs. We should never mix any

cleaning chemicals to avoid potentially creating a toxic gas that could be inhaled. The good news is the majority of cleaner disinfectants on the store shelves for consumers or being recommended for institutional health care, including animal care, are using quaternary ammonium as the active ingredient. This is due to the fact that this active ingredient has a long shelf life, has excellent efficacy, is surface safe, hard-water tolerant, organic-load tolerant, user-friendly, and has a proven legacy of working well.

## Q: Why do I want color and scent built into my cleaner disinfectant deodorizer?

**A:** Having a color in your cleaner disinfectant deodorizer is very important. First and most importantly, it makes the product identifiable from others being used in the hospital. If your product of choice has no color or scent, it is hard to tell what's in the spray bottle. Chemical accidents are more likely when cleaning solutions are unidentifiable. Secondly, the color shade is an easy way of letting you know if the product has been diluted properly, which is very useful, especially if staff is mixing by hand. Using products with no scent will not always control bad odors and many times will leave the hospital with a musty unclean smell. Scents in cleaning products need to be slight and not overwhelming. Once diluted, the scent should be just enough to eliminate foul odors in the air and let your customers know cleaning has been done.

## Q: Is the pH of my cleaner disinfectant deodorizer important?

**A:** Yes. Cleaning and disinfecting products with a NEUTRAL pH 7 are preferred. The reason is because they are more user-friendly and safer for use on equipment, cages, kennels, and floors. With a pH of 13.5, bleach products are far too alkali, and will oxidize and corrode many surfaces. Hydrogen peroxide products are far too acidic at pH 1-2 and can corrode and break down equipment or cages made with ferrous metals and any type of building materials that are a base on the pH scale, such as concrete, cinder block, and grout. Both bleach and hydrogen peroxide disinfectant cleaners will haze and strip floor finish, and can leave a floor's surface pH at a level that may cause skin irritation with direct contact.

## Q: Does the water with which I mix my cleaner disinfectant deodorizer make a difference?

**A:** Yes. When you review the label of a cleaner disinfectant deodorizer designed for hospitals look for a hard-water efficacy rating of at least 400 ppm water hardness. All EPA-approved products have a water hardness level at which the efficacy testing required to be a disinfectant was conducted. If the level of water hardness at your hospital exceeds what the product was designed to be used with, the efficacy data cannot be trusted. Again, the good news is most hospital-grade cleaner disinfectant deodorizers recommended for animal care carry this rating. Some hydrogen peroxide products do not. ●

*Chris Quinlan grew up in a family business specializing in hospital hygiene, sanitation, laundry, and floor care since 1958. In addition to a bachelor of science from California Polytechnic University, Quinlan also has extensive training in chemistry, microbiology, hospital infection control principles and practices, institutional hygiene, environmental sanitation, odor control, floor care, and OSHA compliance. Today, he is president of Health Technology Professional Products Inc., a leading brand of sanitation products in the pet care industry since 1989, and owner of the Riverwalk Pet Resort in Riverside, Calif. Quinlan is also a consultant on environmental sanitation in the pet care industry.*

This Education Center article was underwritten by Health Technology Professional Products Inc., of Riverside, Calif.

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