

Germ, Disinfectants, and Health

By David Frank

With all the turmoil in the world today, it is easy to forget that one of humankind's most serious adversaries has the power to kill millions of people throughout the world. That adversary is germs, which have caused the death rate from infectious diseases in the United States to rise significantly since the mid-1980s.

One of the big concerns for health-care professionals and a major responsibility for the cleaning industry is to develop products, procedures, equipment, and cleaning systems that result in an effective germ-control program to help minimize the spread of disease-causing infections.

What Germs Are

There are many different types of germs on our planet. However, the germs we deal with in the cleaning industry are primarily bacteria, viruses, and fungi.

These germs are found in our water, air, food, and bodily fluids. They are easily spread by touching surfaces such as doorknobs, countertops, railings, utensils, mops, and mop buckets. Germs and bacteria live in groups near their nutrient sources and can double their numbers every few hours.

Germs enter our bodies in the following ways:

- Ingestion—swallowing contaminated food or beverages
- Inhalation—breathing harmful contaminants into the respiratory system
- Puncture or insect bite into the bloodstream
- Absorption through the skin

We must also realize that not all germs are harmful. Many are actually safe and some we need for our very existence, such as those that help us digest food. It is the disease-causing germs that we are concerned about.

The Most Contaminated Areas for Germs

The professional cleaning industry, especially those selling or servicing health-care facilities, should know where most germs are likely to be found:

Kitchens and food service areas, especially sinks, sponges, countertops, and cutting boards, are heavily contaminated. Some studies have found that the average cutting board has more bacteria on it than the top of a toilet seat.

Laundry areas in hospitals are often "crawling with bacteria." Germs can thrive in washing machines because the environment is moist and warm.

Custodial closets are home to millions of germs, especially in soiled mops and mop buckets, poorly maintained carpet extractors, auto scrubbers, wet/dry vacuum cleaners, sinks, and floor drains. This tells us that ironically, cleaning tools themselves can cause contamination and spread germs if they are not properly cleaned and disinfected.

Restrooms are well-known havens for germs. Toilets and urinals and the floors, walls, and other surfaces around them often have large amounts of contamination. And every time a toilet or urinal is flushed, it scatters scores of germ-filled droplets on surrounding surfaces.

Disinfectants and Germ Control

Our industry has the job of controlling the growth of harmful germs and maintaining healthy buildings through the process of soil removal and decontamination. Indeed, a poll conducted by Opinion Research Corporation in 2005 found that more than 40 percent of Americans believe eliminating harmful germs and bacteria is the *chief* responsibility of cleaning professionals.



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This is done through efficient and proper cleaning. We kill germs by selecting the proper cleaning tools and equipment for sanitizing or disinfecting contaminated surfaces. For instance, an all-purpose cleaner, which is excellent for the removal of unwanted soils, may be ineffective when it comes to killing germs. Instead, and especially in health-care facilities, sanitizers and disinfectants can reduce germ populations by killing more than 99 percent of the targeted pathogens. Some facilities are effectively killing germs while eliminating chemicals altogether. Instead, they are turning to equipment such as steam cleaner, which, because it heats water to more than 245 degrees Fahrenheit, effectively cleans and kills unwanted germs without the use of chemicals.

Whether disinfecting with or without chemicals the surface area must first be cleaned or scrubbed to loosen stubborn or embedded soils and allow the disinfectant to work more effectively. In order for disinfectants to work properly, they must stay wet and dwell on the soiled surface for a specific amount of time—from 30 seconds to as much as 10 minutes. Manufacturers are required to provide dwell time information on the instruction label for their products. It is common to have a disinfectant or sanitizer label that lists several dwell times. For instance, the label may say 30 seconds for one germ, one minute for another germ, and 10 minutes for all other germs listed on the label. Usually it is best to allow as much dwell time as possible.

Additionally, because most commercial disinfectants are sold in bulk quantities, dilution is important. If improperly diluted and the solution is too strong, the disinfectant can become sticky and actually attract soil to surface areas. If too weak, it will not perform properly and will be ineffective in killing germs.

Care must always be taken when using and selecting disinfecting agents. As a result of news media frenzy about harmful germs in medical facilities, some facilities managers may inadvertently replace good cleaning practices with the overuse of disinfecting agents. Overuse can be dangerous. The cleaning professional must balance the potential risks of these germ-killing chemicals with the benefits of their use.

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