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COVER STORY

The Right Kind of Clean

BY VIRGINIA PETRU

Knowing How and When to Sell A Disinfectant

How many times have you missed an opportunity to educate your customers about the proper use of a disinfectant? Have you missed a sale because you did not have the proper information? Are your customers implementing the right sanitizing or disinfecting techniques? To sell the right kind of clean, it's important to know the details of sanitizing and disinfecting.

The EPA provides the following descriptions:

- A **Sterilizer** destroys or eliminates all forms of microbial life including fungi, viruses, and all forms of bacteria and their spores. Sterilizers are typically used in infection control and widely used in hospital, and on medical and surgical instruments and equipment. Types of sterilizers include steam under pressure, dry heat ovens, and low temperature gas.
- A **Disinfectant** destroys or irreversibly inactivates infectious fungi and bacteria, but not necessarily their spores. There are two types of disinfectants: 1) Hospital-type and 2) General.
- **Sanitizers** are used to reduce but not eliminate micro-organisms from the inanimate environment to levels considered safe as determined by public health codes or regulations.
- **Antiseptics** and **germicides** are used in or on living humans or animals. They are considered drugs and are regulated by the Food and Drug Administration.

The non-porous battlefield

To kill a germ, you have to know a germ. There are three main types of germs or micro-organisms — bacteria, viruses and fungi.

You might think the public restroom is the most popular hang-out for disease-causing germs. However, according to a study conducted by the University of Arizona, the average desk harbors 400 times more bacteria than the average toilet seat. The most common bacteria found in this study were:

1. E-Coli
2. Klebsiella pneumonia
3. Streptococcus (strep)
4. Salmonella
5. Staphylococcus aureus (staph)

In the real world, there are germs just about everywhere, not just on desktops. And there's more than just bacteria. The most prevalent viruses include Herpes, Hepatitis B, HIV and Influenza. One of the most popular fungi is Trichophyton Mentagrophytes, or Athlete's Foot.

Fortunately, with the right products and techniques, all three types of micro-organisms can be battled on the flat, non-porous battlefield.

If a product claims to kill or otherwise mitigate (prevent, repel, destroy) a micro-organism (bacteria, viruses, fungi), it is an anti-microbial and considered a pesticide under federal law. It must be registered with the EPA before it can be distributed or sold. (The exception is if the micro-organism is either existing on or in living humans or animals.) It's actually a violation of federal law to sell a product as a sanitizer or disinfectant for use on hard surfaces without EPA registration, unless the EPA has granted a rare temporary exemption.

The EPA categorizes anti-microbials into four categories:

1. Sterilizers,
2. Disinfectants
3. Sanitizers
4. Antiseptics and Germicides.

As cleaning professionals we are concerned with disinfectants and sanitizers, and not the other two categories. That's because a sterilizer is appropriate for high-level sterilization of medical instruments and equipment used in medical procedures, and germicides are for use on living beings.

Comparing killers

According to EPA efficacy requirements, a disinfectant must kill 99.99 percent or more (up to 99.9999 percent — there is no such thing as a recognized 100 percent kill rate) of specified bacteria. Sanitizers must kill at least 99.9 percent of three specified bacteria within a specified time period. Some sanitizers will kill more than just the three bacteria required by the EPA and will have a higher kill percentage. Therefore, it's important to carefully read the label to determine the full power of a product.

The label will also tell you if the product is registered as a virucide and/or fungicide, often by listing the specific micro-organisms for which EPA registration has been granted. This registration involves a different testing process than proving efficacy against bacteria, so be aware that not all sanitizers and/or disinfectants will kill viruses and fungi, as well.

In most cases, a sanitizer is more than adequate to acquire an acceptable microbial kill, as the EPA has stated that a sanitizer "reduces micro-organisms on inanimate environments to levels that are considered safe by public health codes or regulations." (www.epa.gov/pesticides/factsheets/antimic.htm).

Take a look at your EPA-registered sanitizers and disinfectants and compare the labels. You may be surprised at what you discover, particularly for combating the top five bacteria found in the University of Arizona's study. As an example, look at the chart on the next page.

It's a touchy subject

Practically speaking, most germs are spread when contact is made with the offending bacteria, virus or fungi. Therefore, why disinfect every square inch of a facility when there are only a few square inches in each room, namely the "touch-points," that spread disease?

The Centers for Disease Control in its Guidelines for Environmental Infection Control in Health-Care Facilities (www.cdc.gov/mmwr/preview/mmwrhtml/rr5210a1.html) recommend that in patient rooms, professionals should "clean and disinfect high-touch surfaces (e.g. doorknobs, bed rails, light switches, and surfaces in and around toilets . . .) more frequently."

Similarly, the National Institutes for Health, in its online U.S. National Library of Medicine, recommends that individuals "clean commonly touched surfaces (sink handles, sleeping mats) with an EPA-approved disinfectant" in order to reduce exposure to germs.

One solution you can offer your customers is to implement a program that cleans and sanitizes surfaces first, then "over-sprays" high-touch surfaces with a disinfectant. Consider recommending a disinfectant that provides a 24-hour residual kill on common bacteria for these "high-touch" points.

BACTERIA	Popular H2O2 Sanitizer Kill (EPA Reg No. 69268-2)	Popular Bleach Disinfectant Kill (EPA Reg No. 67619-8)*	Popular Heavy-Duty Bathroom Cleaner/ Disinfectant Kill (EPA Reg. No. 675-64)*
E-Coli	99.99%	99.99%	99.99%
Klebsiella pneumonia	99.99%	Not Noted**	99.99%
Streptococcus faecalis	99.99%	Not noted**	Not noted**
Streptococcus pyogenes	No	99.99%	99.99%
Salmonella choleraesuis	99.99%	99.99%	99.99%
Staphylococcus aureus	99.99%	99.99%	99.99%

** Percentage is based on EPA efficacy requirements. There are additional variables regarding the kill efficacy of disinfectants and sanitizers. Please refer to the EPA website for more detailed information (www.epa.gov) or contact the manufacturer for particular products.*

*** As a general matter, unless a particular claim is expressly noted on the label, users should assume that the product is not intended for use by the manufacturer against non-listed micro-organisms. Under applicable EPA guidelines, manufacturers are free to limit the number of approved claims at their discretion and often do so for a variety of reasons.*

No such thing as "hospital-grade"

Have you ever run across the term "hospital-grade germicide?" The term is commonly used, however you will never see the EPA, the governing body for anti-microbials, define it. The EPA considers a "germicide" a drug (for use in or on living beings) so it is regulated by the Food and Drug Administration (FDA).

Therefore, a product label will not state the product as "hospital grade." It is against EPA guidelines as "implied claims (e.g., any statement, design, graphic representation or brand name) of heightened efficacy of a pesticide product by itself or as compared with another product or device are false and misleading . . . Examples of such claims include, but are not limited to "hospital strength," and "hospital grade."

The EPA does use the term, "hospital type disinfectant" or "hospital use disinfectant" which is defined as an EPA registered product that is effective against Staphylococcus aureus, Salmonella cholerasesuis and Pseudomonas aeruginosa. (www.epa.gov/oppad001/dis_tss_docs/dis-01.htm).

The term "hospital use" may appear on a disinfectant product specifically approved for use in healthcare settings such as hospitals, medical clinics or nursing homes, however, such claims may only be made directly in connection with approved use sites — not to imply heightened efficacy or otherwise highlighted on the label to the exclusion of other acceptable use site (www.epa.gov/oppfead1/labeling/lrm/chap-12.htm).

ADDITIONAL TIPS FOR USING SANITIZERS AND DISINFECTANTS

1. Read the product label. Make sure it's killing the bacteria, viruses and fungi that concerns the customer. Follow all manufacturer directions. Be aware of the signal word for toxicity levels.
2. Clean the surface first.
3. Give appropriate dwell time.

The best way to determine whether a product meets the "hospital type" disinfectant level is to check the label. Such products' label will state the product's effectiveness against the three bacteria defined for "hospital-type" disinfectants.

EPA signal words

The EPA categorizes products into four toxicity categories, and they must print on the product label the appropriate "signal word" as determined by the most severe toxicity category that's assigned from the results of six toxicity studies:

1) Acute oral
2) Acute dermal
3) Dermal sensitization
4) Acute inhalation
5) Primary eye irritation
6) Primary skin irritation.

The categories and signal words are:

Category I = DANGER (Most toxic)
Category II = WARNING
Category III = CAUTION
Category IV = No signal word required, but "CAUTION" may be used if desired

If the product you are selling has a signal word on its label of "Caution" then it demonstrates a lower toxicity profile based on those six toxicity parameters than one with a "Danger" signal word. In any event, all antimicrobials registered by EPA are considered to be potentially hazardous and should be used in accordance with all label directions and warnings in order to avoid unreasonable adverse effects.

Occupational disinfectant-related illness

Many customers are becoming more concerned with the toxicity of the products they are using. This can be particularly true if a customer is hiring young people who are exposed to cleaning chemicals.

A report published in Environmental Health Perspectives found a higher incidence of "acute occupational disinfectant-related illness" among young people (18 and younger) when exposed to disinfectants. Nearly 80 percent of those cases involved exposure to Category I disinfectants. These customers would be good candidates for disinfectants with a lower toxicity rating (i.e., those that utilize the "Caution" signal word instead of one with "Warning" or "Danger.")

Advising your customer

Know your inventory. Become familiar with your product lines, their EPA toxicity category and the micro-organisms they are registered to kill. If necessary, investigate sanitizers and disinfectants that have lower category ratings but will kill the same bacteria and viruses.

Remember . . . sanitizers and disinfectants are different. When consulting with customers, keep in mind their particular needs and suggest the products and techniques to best meet their demands. MS

Virginia Petru is an independent contractor who has been involved in the jan/san industry for more than 15 years.