



Super-Charging the Effectiveness of Your Sanitation Program

Regardless of the disinfectants/sanitizers being used in your facility, a number of additional factors are critical to the overall performance and effectiveness of your sanitizing operation.

Clean Surface

Soil can chemically inactivate the disinfectant as well as physically protect the microbial cell from direct contact with the disinfectant. The surface must be cleaned and thoroughly rinsed – free of soil and residual detergent – which could also chemically inactivate the disinfecting agent.

Intimate Contact

In order for a disinfectant/sanitizer to be effective, it must come into direct contact with the cell wall of the organism. Harborages such as pits, crevices, and cracks as well as soil residue can prevent this intimate contact from occurring.

Temperature and Concentration

In general, chemical reactions are accelerated by a rise in temperature; this is true of disinfectants and sanitizers as well. As you increase the temperature of the product solution you increase the efficacy. Exceptions to the rule are iodophor and sodium hypochlorite solutions. Iodophors vaporize at temperatures above 120°F, so their use is somewhat limited. And the stability of chlorine degrades as temperature increases.

In general, as you increase the concentration you increase the activity of the disinfectant or sanitizer. There are however, FDA restrictions on the maximum concentration that can be used on food contact surfaces. Carefully read and follow the use directions on your product label and be aware of the regulatory compliance issues as they pertain to the types of surfaces or utensils being sanitized.

Contact or Dwell Time

Flood or immerse the surface. Typically, the longer the contact time, the greater the kill. Please remember though, that dead is dead. If a particular sanitizer states that it will provide a 99.9% kill in 60 seconds, it does not mean that it will kill 100% of the bacteria in 2 minutes.

pH

This is especially true with acid sanitizers, and with chlorine since chlorine has greater activity as the pH is lowered.

Water Composition

The effectiveness of the disinfectant or sanitizer is affected by the composition of the water, which can make the product chemically inactive, or buffer the pH and diminish the product's effectiveness. Areas of concern include: water hardness and impurities such as metal ions and other organics and inorganics.

Species of Microorganism

From the information presented so far it is clear that not all disinfectant and sanitizers are equally effective against all microorganisms, or the various forms of the microorganisms. For example, cells in the spore state or biofilms are much more resistant than cells in the vegetative and freely suspended state.

Total Number of Microorganisms on the Surface

A sanitizer is only capable of reducing the number of bacteria, which means the higher the initial number present, the higher the number of possible survivors. High numbers can overwhelm the sanitizer.

One final word here: Do not expect your disinfectants or sanitizers to do more than the job they are designed to do. Sanitizers and disinfectants are not a replacement for good housekeeping and hygiene and will not replace the efforts from a well-designed and functional sanitation program.