

DISINFECTANT COMPARISONS

There are several ways to compare disinfectants including disinfection efficacy, cleaning efficacy, prescribed usage and cost in use. Disinfection efficacy is related to listed pathogens, kill times, and ppm (parts per million). Cleaning efficacy is related to dilution ratios, solvency and detergency. Prescribed usage is related to how and where it is to be used. Cost-in-use relates to end-user costs in diluted form and in actual use.

- ✓ **Disinfection efficacy** is listed on product labels and the efficacy data sheets. They are required to be submitted for approval with EPA and /or DIN. The listed products are usually selected based on the current interest in certain pathogens like Staph, HIV, HBV, E. Coli, etc. and the multi-drug resistant strains like MRSA, VISA and VRE. The other pathogens listed would be the very difficult to kill organisms like Streptococcus and Pseudomonas.
- ✓ **Contact time required** may vary, however most critical pathogens have similar contact time requirements regardless of the active disinfectant agent. Accelerated kill time test data can be submitted to the EPA and/or DIN for Registration approval, but it is not mandatory. For a basic disinfectant rating, all listed pathogens must be inactivated in ten minutes.
- ✓ **Parts per million (ppm)** of the end-use solution is another way to evaluate disinfection efficacy. PPM is calculated by taking the total percentage of all active disinfectant agents multiplied by the number of ounces needed per gallon. This number is then divided by 128, and then multiplied by 10,000. Disinfectants are considered to be efficacious if the ppm is above 300-350 ppm. Enviro-Solutions' disinfectant concentrates are designed to yield almost twice that. The "safety" margin is there to help the disinfectant solution overcome the impact of hard water and high soil loads (including microorganism loads), which will lower the ppm of the disinfectant solution when in use (by about 150 ppm per room). Disinfectant solutions need to have an ample safety margin to handle high soil load conditions.
- ✓ **Cleaning efficacy** of the solution is directly related to real-world cleaning operations in hospitals or other health-care settings, even schools. Cleaning efficacy is dictated by the amount of solvency and/or detergency that the end-use solution has. A 1:64 disinfectant cleaner is many times more effective than a 1:256 disinfectant cleaner in this regard. A good disinfectant cleaner will remove dried and difficult soils and allow them to be captured in a mop bucket or an auto-scrubber and removed from the facility.
- ✓ **Cost in use** is a final critical factor in the choice of disinfectants. This is determined by analyzing the cost of the solution after dilution. Everyday housekeeping operations in most facilities are very sensitive to costs. As such, the proper disinfectant to implement should be matched to the required protocols to keep costs minimized.

There is no perfect disinfectant. All the appropriate factors need to be considered to choose the optimum disinfectant for specific situations and objectives that will meet the critical needs while minimizing costs. In most cases, costs can be lowered by using different disinfectants for different tasks in a facility, to avoid "over-killing" the budget.