

When it comes to proper infectious disease control, a marriage must take place between using the proper chemistry and having the proper knowledge, according to **Enviro-Solutions Director of Training and Product Manager — Disinfectants & Sanitizers Mark Warner**.

“My specialty relates to outbreak management and pandemic preparedness as well as procedural training for disinfection and decontamination,” Warner said. **“One of the most important issues I stress to people is that they must have the right procedural knowledge and the right chemistry in place to be successful.”**

He added that there is a need for increased public awareness concerning the importance of the cleaning industry. With today’s news about the swine flu fresh on many people’s minds, there is greater demand for the cleaning industry work force to attain some degree of formal training or certification, which Warner said is a good thing.

“You can’t unplug somebody’s sink without being a certified plumber, yet you can still disinfect that same person’s office for the swine flu without having any kind of certification or proper training,” Warner said. “I think additional training and certification will elevate the cleaning industry and create a higher level of respect for this industry.”

Enviro-Solutions, based in **Peterborough, Ontario**, is a 15-year-old company that was started with the business model of producing green, and only green, cleaning products that work.

“Enviro-Solutions has successfully addressed the complaint that ‘green’ products don’t work. We produce products that are certified as green, yet are also high performance items,” Warner said.

He added that the company produces many types of disinfectants and sanitizers. One that is most notable right now concerns the company’s ES 128, which Warner said is one of the first products to go through EcoLogo’s CCD-166 certification program as being green and a disinfectant.

“As many in the cleaning industry know, there has been a disconnect over the years in that it has not been possible to have a green-certified disinfectant. Therefore, we feel (ES 128) is a particularly special product. It’s a brand new release for us,” Warner said. “For companies looking to meet their green initiative, and also desiring to incorporate the killing power of a disinfectant, this product can help.”

Warner spends a lot of his time doing training in the field, helping distributors and their end-user customers learn about infectious disease control and the proper use of disinfectants and sanitizers.

“Enviro-Solutions works directly in conjunction with distributor companies that generally act as a host for a large venue. They put together educational seminars aimed at end-users. Normally these end-users are those involved with nursing homes, hospitals and out-patient clinics as well as representatives of educational facilities and government agencies,” Warner said. “I conducted several programs in New England where the distributor ran radio ads. For the first time in my career, we had people from the general public attend. They had nothing to do with the cleaning business or the selling of products, but they heard the ads and were interested in the topic of environmental cleaning to deal with infectious disease outbreaks, such as how to properly use disinfectants.”

He explained that Enviro-Solution’s educational focus is part of the company’s customer service offering, aimed at reaching out and impacting distributors and end-users.

“We are doing something above and beyond just making products for our distributors. We are literally cultivating the end-user market for our distributors, which includes creating demand through education, resulting in additional business for them and us,” Warner said.

When it comes to fighting MRSA, swine flu and other infectious disease problems, Warner has been involved in developing the DEFCON ranking system. DEFCON is a military term that stands for “Defense Condition.” As it relates to the cleaning industry, however, Warner said this ranking



Mark Warner
Enviro-Solutions

system is used to assess the environmental degree of danger and to better understand how to identify threat levels. It’s also designed to adjust procedures, chemistries and tools that fit the situation of an outbreak. *DEFCON is divided into four levels. They are:*

■ **DEFCON 1: No threat** — Normal, everyday cleaning procedures can best meet the needs of this treat level, Warner said.

“DEFCON 1 basically deals with cleaning so things look and smell nice. This is really where a product like ES 128, being a green disinfectant, fits in well,” he added.

■ **DEFCON 2: Threat in the community** — At this level, there is an acknowledgement of a potentially lethal and infectious disease outbreak in a community.

“We teach that at DEFCON 2 that there is a need to increase the efficacy of a disinfectant. We want the end-user to step up from a neutral floor cleaner to a more powerful product,” Warner said. “It’s important to focus on the fact that there are three primary reservoirs for pathogens to be found in a facility. Contrary to what some people believe, the largest reservoir for pathogens is not touch points and hands, but instead is the floor area. Microscopic soil concentrates in the same way that visible soil does. Whatever is on that floor will eventually contact some other vehicle to transfer to surfaces where hands can pick them up.”

The second reservoir of importance for pathogens to be found are horizontal surfaces such as desk tops, which Warner said are rarely disinfected.

“We teach people that if there is something going on in the community to go up to DEFCON 2 and increase their disinfectant efficacy. This is important as they attack infectious disease pathogens in the three primary reservoirs which are the floor, above the floor on horizontal surfaces, and then touch points such as key pads, door knobs and hand railings,” Warner said.

■ **DEFCON 3: Threat in the facility** — At this level, an outbreak is taking place at a specific facility. Therefore, disinfectant efficacy should be increased one notch further, making sure the disinfectant is not only approved for hospital use, but also lists the specific pathogens in question.

For a situation involving DEFCON 3, Warner recommended Enviro-Solution’s ES 64, calling it “a 2 ounce per gallon product.”

“Although it kills the same things that a 1/2 ounce per gallon product will kill, it has four times the cleaning efficacy,” Warner said. “Dried and stubborn surface soils must be removed before the entire surface area can be considered thoroughly disinfected. That’s where the increased cleaning efficacy comes in.

“At DEFCON 3, we are still focusing on the three primary surface reservoirs, but we also address the fact that pathogens exist in other places. This includes the air and substrates, such as grouted flooring systems and carpeted areas, where blood, body fluids and other types of liquids can penetrate.

“When pathogens enter into the substrate, they can colonize. Disinfectants cannot go into a substrate and kill. They are a surface treatment. So, at DEFCON 3, we bring in another chemical, a bacteriological/bio-enzymatic product that has the ability to go into the subsurface and feed on the food sources that these pathogenic bacteria use to colonize. It results in the disease-causing bacteria to be displaced by non-disease-causing bacteria, effectively eliminating the threat.”

Warner added that at DEFCON 3, it’s vital to strike the surface level, subsurface level and also the air.

“There are several ways to sterilize air, one is through extreme heat. Another is through fumigation/fogging which is normally done with corrosive and poisonous gases. Obviously this can only be done in unoccupied buildings. In occupied buildings, such as schools, hospitals and nursing homes, air can be treated with UVC and UVA light,” Warner said. “These are special light systems that will basically destroy airborne bacteria, keeping counts low enough that they are not an infection threat.

“When it comes to DEFCON 3, you can’t just treat surfaces and sub-surfaces and not attack the air.”

■ **DEFCON 4: Weapons-grade pathogens in a facility** — Warner said

at this level, it's best to leave the disinfection and decontamination work to the experts. He has conducted programs with such U.S. government agencies as FEMA and the Department of Homeland Security.

"At Enviro-Solutions, we tie-in our products to these different DEF-CON levels. Doing this has been very successful for the company," Warner said.

In today's fast-paced world, he added, almost any disease can turn into a pandemic due to modern air travel. In other words, pathogens can hitch-hike on people and people now can go anywhere.

Regarding the latest outbreak with swine flu, Warner said Enviro-Solutions has experienced an increase in demand for disinfectants. He also said this outbreak could take place in three waves, with the next two waves taking place in the fall when the weather turns colder, and then during the holiday season.

It is important, therefore, that distributors and end-users alike be ready for future demands on not only disinfectants, but also the knowledge of how to use these products properly. Communities may depend on it.

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