by Patrick Lucci

Advanced technologies in hotel sanitation save money and foster a "green" climate

Since 1847, when chlorine was first used as a sanitizer, there have been few if any alternatives to the useful, effective, but often dangerous substances known as chemical sanitizers. Today there is a device that combines three simple elements, water, salt and electricity to create a sanitizer that has proven in independent laboratory tests to be more effective at 50 parts per million than chlorine bleach at 200 parts per million, and a sodium hydroxide compound that can reduce or in some cases, eliminate the need for soaps and detergents in a variety of housekeeping applications. It is Acidic and Alkaline Electrolyzed Water. It is effective, safe, easy to generate and costs a half cent per gallon. Although nobody is recommending prolonged eye exposure or ingestion, if it gets into your eyes it will not harm them. If you ingest it, there are few if any harmful effects beyond killing "good bacteria" in your throat. Best of all, you can generate this water directly within the hotel.

Pictured below: The Colonnade Hotel in Boston has incorporated acidic and alkaline electrolyzed water into its housekeeping regime to save money and foster a green living and workplace climate.

How it works

The process is elegant in its simplicity. Tap water is passed into two chambers, one with a positive electrode, and the other with a negative electrode. Between the two chambers is a set of specially designed ion transfer membranes. A saline solution is passed between the membranes allowing the transport of saline ions into the two chambers. Chloride ions, which are negatively charged, are attracted to the positive electrical charge and electrochemically converted from Cl to HOCL or hypochlorous acid. The sodium ions are positively charged and are attracted to the negative charge and electrochemically converted to NaOH or a sodium hydroxide. The solutions exit the respective chambers in separate streams, and can be used for a wide variety of purposes. The Hypochlorous Acid is a powerful sanitizer which dries 100% residue free. The Sodium Hydroxide is an effective cleaner that can be used to remove dirt and grease from any device or surface in a foodservice operation. A number of users have documented significant savings in chemical costs, but even greater savings on the cost of soaps and detergents.

This approach, based on advanced electrochemical technology, is catching on in food- service and housekeeping operations throughout the world. Electrolyzed water is safe for people and the environment. It is as effective as many chemicals and more effective than others. Both streams of electrolyzed water are non-toxic, useful, and can save an operation thousands of dollars per year. One chain of pub restaurants has documented savings of close to $5,000 per year per operation on the alkaline stream alone to replace or augment their chemical detergents for washing floors, food preparation surfaces and even dishes.

Hotel applications

At Boston's prestigious luxury property in the trendy Back Bay neighborhood, The Colonnade Hotel is currently in the midst of an impressive $18 million dollar renovation. Part of the renovation is helping to significantly reduce the amount and number of chemical cleaners and sanitizers that both guests and hotel workers are exposed to. To accomplish this, V.P. & Managing Director David Collela has installed The ElectroCide System in his foodservice operation and in housekeeping.

The acidic electrolyzed water (Hypochlorous Acid) is used as a sanitizer. The housekeepers use the sanitizer to disinfect toilets, sinks, faucets, and urinals to eliminate pungent odors and to clean mirrors and other glass surfaces. The Hypochlorous Acid is also used in place of bleach to eliminate soap scum in showers and tubs. By using it in a fogger, it eliminates odors caused by smokers in guestrooms, thereby providing the ability for Housekeeping personnel to quickly restore a highly smelly smoking room to a cleaner state. Clearly, eliminating exposure to toxic chemicals is a benefit not only to guests, but employees as well.

At Brasserie Jo, the hotel's French brasserie, the acidic electrolyzed water is used to sanitize all food prep surfaces, equipment, and also serves as a hand sanitizer. It is also used to sanitize fresh vegetables to guard against E. Coli or other bacteria such as Listeria or Salmonella that can cause food poisoning. Recently, as a preventative measure to minimize the spread of potential cold bacteria and flu virus, Stephen Catania, Director of Food & Beverage, gave his entire wait staff spray bottles of acidic electrolyzed water to use as a hand sanitizer before serving customers.

The Colonnade's housekeepers use the alkaline electrolyzed water (a solution of Sodium Hydroxide) as a replacement for a variety of soaps and detergents. Currently, they clean floors and other surfaces such as counters and tables without mixing or needing to dispose of anything except dirty water. Culinary and stewarding employees use the alkaline electrolyzed water to clean and degrease utensils, kitchen tools and surfaces. At some point they will use it in the dishwashing equipment to replace deter-

Going "green"

As a result of this wide range of applications, the hotel has and will continue to eliminate toxic chemical sanitizers and detergents from their entire operation. That said, using the ElectroCide System supports the hotel's Green initiative in many other ways.

By making sanitizer and Sodium Hydroxide on-site from simple water and salt, the need for delivery trucks to deliver chemicals is significantly reduced. In the U.S. alone, two million gallons of oil per day are used to make the plastic bottles to store and transport chemicals; in addition, pallets to transport these chemicals need to never be built. The domino effect is impressive.

The ElectroCide System machine is capable of producing 15 gallons of both acidic electrolyzed water and alkaline electrolyzed water solution per hour. This means that in a twenty-four hour period, this little technological marvel can create three hundred sixty gallons of solution at the cost of a half cent per gallon. All this is accomplished while maintaining a green environment by eliminating the use of caustic or dangerous chemicals and the effluent that results from their disposal.

There has not been a paradigm shift in sanitation since 1847. It was a long time coming, but the day has arrived. ✧

(Patrick Lucci is Vice President of Marketing at Electrolyzer Corporation and is a former Instructor of Microbiology. Electrolyzer Corporation markets the ElectroCide System in North America. This is a proven technology, developed and widely used in Japan, in a variety of markets, including hospitality sanitation and medical disinfecting applications. Website: www.electrolyzercorp.com.

Pictured below: The ElectroCide System generates both acidic and alkaline electrolyzed water to be used for disinfecting purposes and as a replacement for soaps and detergents in hotel.