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Why Using Electrolyzed Water for Cleaning Makes Sense

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By **Daniel Krall** November 18, 2013

It seems like every discipline in facility management is going green these days, and for good reason. Green solutions and practices deliver occupational and environmental safety benefits and at the same time can often create operational efficiencies.

Commercial cleaning and sanitizing is no exception to this trend. Green cleaning and sanitizing can generate cost savings, provide greater convenience in obtaining solutions, and eliminate the use of harsh chemicals at the facility, which often have negative environmental and safety impacts. One of the newest green cleaning and sanitizing options available today is electrolyzed water.

What is Electrolyzed Water?

Electrolyzed water describes two solutions—a grease-cutting cleaner and a powerful sanitizer—which an electrolyzed water system produces through the process of electrolysis. In electrolysis, salt-containing water is subjected to an electrical current. The current, along with ion-selective membranes in electrolytic cells, produces two types of solutions: a high-pH, non-corrosive dirt and grease-cutting cleaner (sodium hydroxide), and a low-pH, high-dissolved oxygen, chlorine-containing sanitizer and disinfectant (hypochlorous acid). The hypochlorous acid acts as a high-efficacy sanitizer, while the sodium hydroxide is a broad spectrum cleaning solution.

Hypochlorous acid, the disinfectant produced by electrolyzed water, is not a weak substitute for typical, caustic chemical sanitizers. In fact, the disinfectant will eliminate most common types of bacteria, viruses, fungi, and spores within 1 to 15 seconds of application, and has tested to be 80 percent more powerful at 50 parts per million than chlorine bleach at 200 parts per million. In addition, the uses of the sodium hydroxide cleaner are many: it can clean carpets and upholstery, as well as hard surfaces such as floors, walls, ceilings, and equipment.

The two solutions produced by electrolysis are highly effective while being both eco-friendly and people safe. The safety benefits of electrolyzed water make it an ideal cleaning and sanitizing system for use in high-risk contexts such as hospitals, healthcare facilities, and food processing environments. Electrolyzed water also has high utility for office, educational, hospitality, and entertainment applications.

The Cost Savings Question

Electrolyzed water is eco-friendly and safe for use in myriad facility types and applications, from healthcare facilities to entertainment venues. But would that matter if the expense for electrolyzed water was too high? The reality is that electrolyzed water might not be viable unless it could deliver its eco-benefits affordably. The good news is that electrolyzed water does just that. In fact, due to its on-site production system electrolyzed water can actually deliver cost savings compared to the typical system of shipping cleaning and sanitizing chemicals to the facility. Typically, cleaning and disinfecting chemicals are purchased in bulk and shipped to the facility, where they are stored, used up, and regularly reordered.

An electrolyzed water system generates cleaner and sanitizer on-site from tap water, salt, and electricity. Generating the solutions at the facility and using easily-accessible ingredients minimizes transportation costs, storage space requirements, and the effort needed to continually reorder chemicals, allowing electrolyzed water to be produced often for as little as 2 cents per gallon. Generating cleaner and sanitizer on-site also results in the added environmental benefit of reduced carbon emissions through minimizing the shipment of chemicals.

Electrolyzed Water: A Short History

Electrolyzed water has been used around the world for decades to clean and sanitize, notably in Japan, Russia, and Europe. In Japan, electrolyzed water is used for everything from sanitizing sushi to filling swimming pools to medical applications. But despite its myriad uses and many health and cost-saving benefits, electrolyzed water has been slow to see widespread implementation in the United States. The word simply has not gotten out about the environmental benefits and cost-saving potential of electrolyzed water and its innovative on-site production system. Perhaps for some electrolyzed water has seemed “too good to be true.” But as the technology has gained acceptance and been publicized in the United States, facility managers have begun to embrace it. Richard Cardemon, president of Reliance Machine Co., has implemented electrolyzed water in a myriad of ways including cleaning and sanitizing of bathrooms and kitchen areas, washing down machinery, and cleaning glass windows throughout the facility. With electrolyzed water, Cardemon says Reliance has “reduced general cleaning chemical usage by almost 85 percent and replaced it with electrolyzed water at a cost of less than 2 cents per gallon.”

Electrolyzed Water Today

Today, electrolyzed water is gaining ground in acceptance for use at commercial facilities as well as in the regulatory community. Electrolyzed water is recognized as a disinfectant by the U.S. Environmental Protection Agency and Centers for Disease Control, and listed for use in food processing by the Federal Drug Administration. As the technology has become accepted by the facility management and regulatory communities, it has become more widely available, in part, as a component of a welcomed trend toward green facility management solutions. Electrolyzed water combines environmental and occupational safety benefits, affordability, and the powerful cleaning and sanitizing solutions that every facility needs. The technology is simply a great way to increase the “green” of a facility cleaning and sanitizing regimen. With electrolyzed water, going green means adding to the bottom line of both the facility fiscal and environmental budgets.