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## Killing germs

As you are aware, we have other strong disinfectant agents at our disposal. Bleach is widely used in hospitals and medical practices and shares the same chlorine family as HOCl. Research shows that they both kill bacteria, fungus, spores, and viruses. Yet bleach is highly irritating to the eyes, skin, and lungs—and inhalation over long periods could be carcinogenic. In contrast, HOCl has a temporary and mild chlorine smell that dissipates quickly, it is non-irritating, and it does not have poisonous side effects.

Alcohol is a popular disinfectant to use in clinic for wiping down instruments, furniture, and is a key ingredient in hand sanitizers. Ethyl alcohol (70%) is considered more effective compared to isopropyl alcohol. Both are bactericidal, fungicidal, and viricidal but are not effective against bacterial spores.<sup>3</sup>

Hand sanitizers with alcohol are used daily in many medical offices, but over time repeated use may lead to hand dermatitis. I became allergic to hand sanitizers after using it for many months in clinic. It was extremely irritating and embarrassing to have a rash on my hands. After discontinuing hand sanitizers and using latex free gloves, it still took months for my hand dermatitis to resolve. In one study, the prevalence of contact dermatitis related to hand hygiene ranged from 25 to 55 percent. Fortunately, HOCl acid can also be used in place of hand sanitizer with no irritating side effects. Moreover, punch HOCL delivers to pathogens is more powerful than the one delivered by alcohol.

## What Is Electrolyzed Water?

The antimicrobial solution created by the process is known as hypochlorous acid, a strong disinfectant that is harmless to food and to humans, but in independent laboratory tests and in tests sponsored by the EPA, has been proven to be a more powerful sanitizer than chlorine bleach. The device also creates an alkaline stream of sodium hydroxide which is a basic element in many soaps and detergents. Both solutions are safe enough to be used in a variety of kitchen activities ranging from hand sanitizing to disinfecting food prep surfaces and equipment. The sodium hydroxide can be used to wash floors without detergent eliminating soap residue and saving money. Electrolyzed Water is approved as a sanitizer and for wound care by the FDA.

### How Electrolyzed Water Works

The process is elegant in its simplicity. Tap water is pumped into compartments alternating a positive and negative electrical charge in every other compartment. These compartments comprise a patent pending electrolytic cell. This cell is submerged in a saturated saline solution. As chloride ions enter the positively charged compartments, the electrical charge electrochemically converts the ion from chloride (Cl) to hypochlorous acid (HOCl), a powerful sanitizer that has been proven in independent laboratory tests and in tests conducted on behalf of the EPA to be a more effective sanitizer than chlorine bleach in higher concentrations, but is completely non-toxic.

In the negatively charged compartments, the sodium ions (Na) are electrochemically converted to sodium hydroxide (NaOH), a basic component of many soaps and detergents, which acts as a grease cutter and cleaning solution that is equally non-toxic. Both solutions are harmless if they come into contact with the skin, eyes or mouth.