

Hypochlorous Acid Information

Hypochlorous Acid (HOCl) is an ideal disinfectant and sanitizer because it is relatively inexpensive to manufacture and is not harmful to human and animal contact as well as safe to the ecological environment, nor will it damage surfaces or materials on which they are applied when used according to instructions.

Hypochlorous Acid Background

Hypochlorous acid (HOCl) was discovered in 1834 by the French chemist Antoine Jérôme Balard. HOCl is made by combining non-iodinated salt and water then subjected to a process of electrolysis. By conducting electrical current across two electrodes in a salt brine solution produces Chlorine gas (Cl₂), Sodium hypochlorite (bleach or NaClO), hypochlorous acid (HOCl), Sodium hydroxide (NaOH), Hydrogen gas (H₂), ozone (O₃), and traces of other nascent oxidants.

HOCl destroys viruses, bacteria, and mold by a process of chlorination that forms chloramines and Nitrogen-centered radicals, resulting in single-stranded as well as double-stranded DNA breaks, rendering the nucleic acid useless and the virus harmless. HOCl selectively binds with the unsaturated lipid layer, the cell's protective membrane, thereby subsequently disrupting cellular integrity.

On contact with the virus, a disinfectant agent changes the microbial protective protein coat, which loses its structure and aggregates, forming clumps of proteins with other viruses. Currently, the US Environmental Protection Agency (EPA) has recommended numerous disinfectants against COVID-19 including HOCl. The mechanism of disinfection involves the destroying of the cell wall of microbes or viruses, allowing the disinfectant to destroy or inactivate them. HOCl manufactured by SanitizedPro USA whose brand name is *Sanitized Pro*, and is qualified by the EPA as a hospital-grade disinfectant and virucide that is listed in the EPA's List N and is registered to claim "kills COVID-19 in 60 seconds."

It is already a known fact that hypochlorous acid (HOCl) is a strong oxidizer, disinfectant, antimicrobial, etc. Despite being relatively easy to make, it is difficult to maintain a stable hypochlorous acid solution. It was not until recently that technological advances have been able to cost-effectively produce and maintain HOCl water for stable commercial use. It is a natural disinfectant liquid solution that has been proven to be more effective than bleach against a broad range of microorganisms, including bacteria, fungi, mycobacterium, viruses, etc., while posing no threat to humans.

Although recent technological advancements have reduced manufacturing costs that make possible to market HOCl for home and commercial use, most HOCl manufacturers continue to generate products with characteristically short shelf-life spans, thus not suitably marketable for long storage periods. Of significance, SanitizedPro USA's manufacturer of *Sanitized Pro* HOCl, uses proprietary trade secrets in the production of its HOCl which yields shelf-lives that exceed 18 months while consuming lower quantities of salt in its production of HOCl concentrate than that used by all known industry counterparts.