

The Science of Safety: Hypochlorous Acid (HOCl)

A Clinical Resource for Advanced Facility Sanitation

1. What is HOCl?

Hypochlorous acid is a naturally occurring molecule produced by the human immune system (specifically neutrophils) to combat pathogens and inflammation. In a commercial setting, it is created through the electrolysis of salt and water, resulting in a powerful yet eco-friendly disinfectant.

Human Immune Integration: HOCl is the same substance the body uses to fight infection.

Citation: Cleveland Clinic: Hypochlorous Acid

2. Superior Efficacy vs. Traditional Bleach

While HOCl and bleach (Sodium Hypochlorite) are both chlorine-based, HOCl is uncharged. This allows it to penetrate the cell walls of bacteria and viruses much faster than the negatively charged molecules in bleach.

Killing Power: Research indicates HOCl is 80 to 100 times more effective at killing microbial pathogens than chlorine bleach.

Citation: National Institutes of Health (NIH): HOCl Efficacy

EPA Registration: HOCl is recognized on EPA List N for its ability to kill SARS-CoV-2 and other emerging pathogens.

Citation: EPA List N: Disinfectants for Coronavirus

3. Material Compatibility & Safety

Unlike harsh chemicals that degrade surfaces, HOCl is pH-neutral and non-corrosive when applied correctly.

Non-Toxic Profile: HOCl is non-irritating to the skin and eyes, making it safe for use in high-traffic areas and sensitive environments.

Citation: Journal of Oral and Maxillofacial Surgery: HOCl in Dental Settings

Zero Residue: Because it breaks down into simple saltwater after its reaction, it leaves no toxic film or residue on surfaces.

Citation: FDA Food Contact Notification

4. Ideal for ULV Fogging

HOCl's stability and safety profile make it the gold standard for Ultra-Low Volume (ULV) fogging. It can reach airborne pathogens and settle into crevices (like window sills and upholstery) without damaging electronics or sensitive lab equipment.

Professional Assurance: Our team utilizes HOCl specifically to provide a hospital-grade clean that protects both your people and your infrastructure. By choosing HOCl, you are opting for the intersection of high-level chemistry and environmental responsibility.

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