

The Power of Hypochlorous Acid (HOCl)

??	Answer
What Does HOCl do?	<ul style="list-style-type: none">• Kills food-borne pathogens at low ppm concentrations with no rinse needed• Kills C. diff in healthcare facilities at higher ppm concentrations and/or dwell time• <i>A Pathogen Kill list is included later in the presentation</i>
Why Does it Work?	<ul style="list-style-type: none">• Hypochlorous is an ionically-bonded aqueous solution (water-based) and contains Free Available Chlorine (FAC) which is the most effective of all chlorine forms• The germicidal efficiency of HOCl is due to the relative ease with which it can penetrate cell walls. This penetration is comparable to that of water and due to both its modest size and neutrality (pH)• In other words, the germ thinks it is water and takes it in! Once inside, the solution destroys the cell wall completely and breaks down the proteins needed for survival• Quats and Sodium Hypochlorite Bleach bludgeon pathogens to death. Over time, these pathogens develop a protein barrier for protection reducing effectiveness of the killing agent• In addition, germs cannot logically become resistant to HOCl, because they don't have reasoning minds. If germs resist a water-based solution at 6.5-7.2 pH, they resist water and will eradicate themselves – problem solved
What are Some Benefits?	<ul style="list-style-type: none">• It is a biodegradable, hospital grade, EPA registered disinfectant that does not cause or exacerbate asthma, is neutral pH and we make it in our own bodies.• Non-synthetic – no color or dyes added• Sustainable – made on-site so less shipping cardboard and fewer plastic bottles (re-used)• Reverts to water or salt water over time• Contains no Volatile Organic Compounds (VOCs), which pollute indoor air quality



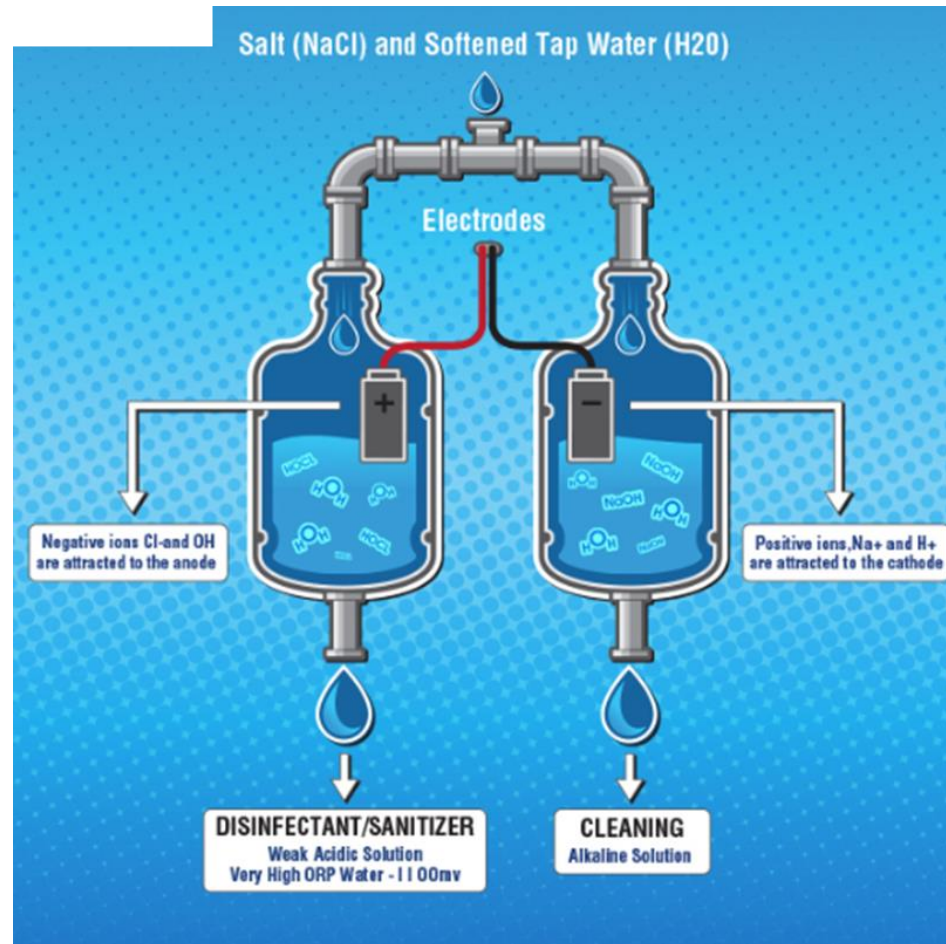
Detailed Disinfectant Comparison

Comparison Characteristic	Chlorine Bleach	Quaternary Ammonium Compounds	Hypochlorous Acid
Asthmagen	Y*	Y^	N
pH	13	13	6.5-7
EPA Registered	Y	Y	Y
No Rinse Food Contact Sanitizer	N	N	Y
Needs a Rinse After Application	Y	Y	N
Synthetic – Fragrances & Dyes	Y	Y	N
May Leave a Residue	Y	Y	N
Sustainable	N	N	Y
On-Site Generation	N	N	Y
Biodegradable	N	N	Y
Can Cause Superbug Formation	Y	Y	N

* Can exacerbate respiratory issues

^ Can cause primary asthma with one exposure, AOEC list

On Site Generation



- Generator uses an electro-chemical activation process to modify the properties of water by passing a weak salt brine solution through an electrolytic cell, temporarily converting it into two products:
 - Disinfectant – near neutral pH, Free Available Chlorine (FAC) levels may vary
 - Degreaser – Conversion of fat or oil into a soap (saponification) – leaves no residue
- Reverts to salt water over time
- Safe for use around people and animals

Annihilyte® - Broad-Spectrum Tuberculocidal Disinfectant Pathogen Kill List

BACTERIA

- **Clostridium difficile – (C.Diff)**(ATCC 43598)
- **Escherichia coli (E coli)** (ATCC 11229)
- **Klebsiella pneumoniae** New Delhi Metallo-Beta Lactamase (NDM-1) Carbapenem Resistant (CRE) ((Klebsiella (NDM-1)(CRE))(KPC)(Carbapenem-Resistant Klebsiella pneumoniae)(CRKP), CDC 10002
- **Listeria monocytogenes** (Listeria)(ATCC 7644)
- **Methicillin-Resistant Staphylococcus aureus (MRSA)** (ATCC 33591)
- **Pseudomonas aeruginosa (Pseudomonas)** (ATCC 15442)
- **Salmonella enterica (Salmonella)** (ATCC 10708)
- **Staphylococcus aureus (Staph)** (ATCC 6538)
- **Vancomycin Resistant Enterococcus faecalis (VRE)** (ATCC 51229)

MYCROBACTERIUM

- **Mycobacterium bovis, BCG** (Tuberculosis or TB)

VIRUSES (NON-ENVELOPED)

- **Adenovirus (1 or Type 1) (Strain 71)**(ATCC VR-1)
- **Norovirus or Norwalk Virus (as Feline Calicivirus)(Strain F-9)**(ATCC VR-782)
- **Rhinovirus (16 or Type 16)(Strain 11757)**(ATCC VR-283)
- **Rotavirus (A or Group A)(Strain WA)**(ATCC VR-2018)

BLOODBORNE / VIRUSES (ENVELOPED)

- **Hepatitis C** (ATCC VR-1422)
- **Human Immunodeficiency Virus Type 1 (HIV-1)**, strain IIIB (clade B); ZeptoMetrix
- **Influenza A (H1N1) Virus** (ATCC VR-1736)
- **Influenza A Virus (H1N1) A/Swine/1976/31** (ATCC VR-99)
- **Respiratory Syncytial Virus (RSV)** (ATCC VR-1540)
- **Swine Flu Virus (H1N1) A/Swine/1976/31** (ATCC VR-99)
- **SARS-CoV-2 (COVID-19)**

YEAST

- **Candida albicans** (ATCC 10231)

