



LUMINARY CHEMICAL

# HYPOCHLOROUS ACID

## Technical Data Sheet



# DESCRIPTION

Hypochlorous Acid, or HOCl, is a uniquely engineered electrolyzed solution of saline water that contains 500ppm of active ingredient. HOCl is the chemical mechanism white blood cells release when they attack bacteria in the human body, and has been known to science for over a century. Stabilizing HOCl to remain effective and have a viable shelf-life has been near impossible until recently.

We have developed a unique process which allows a very specific concentration of salt water to be electrolyzed with proprietary hardware to generate safe, effective, and shelf-stable HOCl that kills 99.99% of microbes and bacteria almost immediately on contact. SiO2's HOCl is completely safe for human contact, and can be misted, fogged, sprayed or wiped directly onto surfaces.

## Surfaces Suitable for Application

Surfaces including metals, stainless steel, plastic, laminates, composites, flooring, textiles (Bed, curtains, bedding, mattresses, towels, etc.), countertops, wood surfaces, stone surfaces, walls, door knobs, all high-touch surfaces.

## Additional Information

Surface must be dry and free of all soil, dirt, oils, and sealers. Test surface in an inconspicuous area before application.

Application may be done by use of spray equipment, pump or hand sprayer, immersion, padding, hand wiping, or by roller. HOCl can also be fogged and/or misted intermittently or continuously in a space to provide constant antibacterial and antimicrobial efficacy.

If product pools, spread the excess evenly until all is absorbed.

HOCl can be used in place of regular cleaners like bleach, ammonia, alcohols, or any other sanitizers that are commonly used. HOCl is far more ecologically sound and human safe than any other household or industrial cleaner.



### NOTE

HOCl is a water-based formulation. Always ensure that the surface is safe for brief contact with water before application.

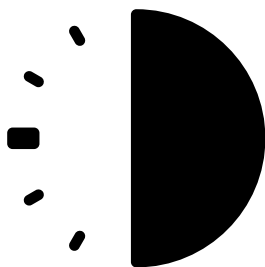
# DIRECTIONS FOR USE

- Ensure surface to be sanitized is clean and free from soil, dirt, oils etc., by using typical surface cleaners that leave no residues. When cleaning food prep surfaces, use recommended cleaners and follow CFIA standards.
- Apply HOCl by completely covering surface and allow to air dry. Use a coarse mist pump or trigger sprayer when sanitizing smaller areas. Spray 15-20 cm from surface to ensure even coverage. If pooling occurs, use microfiber or clean cotton cloth and spread excess SiO<sub>2</sub> Surface Sanitizer until evenly distributed or absorbed. No wiping or rinsing is needed.
- Application may be done by use of spray equipment, pump or hand sprayer, immersion, padding, or by roller. Application may also be conducted using fogging or misting equipment, as an intermittent or continuous sanitization mechanism. Refer to label on product.



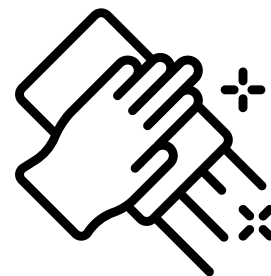
## Step 1

Apply HOCl directly to the surface using any of the suggested methods.



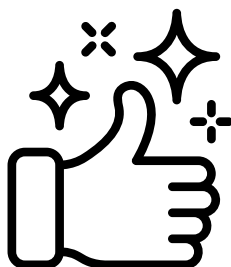
## Step 2

Allow HOCl to dwell on the surface for at least 10 seconds to ensure effective kill.



## Step 3

Allow surface to air dry, or wipe surface clean with appropriate apparatus.



## Step 4

Continue using HOCl regularly, in place of household or industrial cleaners.

# SPECIFICATIONS

<b>Efficacy Time</b>	HOCl is effective within seconds of contact on all surfaces.
<b>Coverage</b>	Coverage depends on the surface absorbency and varies from 50-100 ml/m <sup>2</sup> .
<b>Maintenance</b>	Continue regular scheduled cleaning of surfaces, using HOCl in place of traditional cleaners.
<b>Features</b>	Effective against 99.99% of most bacteria and microbes, completely safe for human health. Can be applied on skin, assists with wound healing, is 100x more effective than bleach at destroying bacteria, fungi and viruses but safe to user and may be used with room occupants. HOCl includes no poisons like typical sanitizers so long-term exposure is considered safe.
<b>Application Precautions</b>	Application of HOCl requires no safety equipment and can be used on all surfaces in healthcare, food prep, daycare, eldercare, gyms, transportation industry, etc. SiO2's Sanitizer may be fogged into populated areas, including patients rooms, with no ill effects.
<b>Ingredients</b>	Deionized water, salt.
<b>Precaution</b>	The use of latex gloves is recommended as the product may dry skin.
<b>Handling</b>	Refer to MSDS Sheet.
<b>Containers</b>	Size of containers on demand
<b>Shelf Life</b>	1 year for an unopened original container. Opened product should be used as soon as possible. Keep in a cool, dry place.

# EFFICACY

HOCl is highly effective in neutralizing an impressive range of pathogens, molds, mildews, bio films, and fungi including but not limited to, the following:

<b>Bacteria</b>	Aeromonas hydrophila	Myroides spp.
	Acinetobacter baumannii	Pseudomonas aeruginosa
	Alicyclobacillus acidoterrestris spores	Salmonella enterica
	Bacillus subtilis	Salmonella typhi
	Campylobacter jejuni	Shigella dysenteriae
	Escherichia coli	S. Typhimurium
	Escherichia coli (enter- hemorrhagic)	Staphylococcus aureus
	Escherichia coli 0157:H7	Staphylococcus aureus (methicillin-resistant)
	Escherichia coli New Delhi	Stenotrophomonas maltophilia
	Metallo-Beta Lactamase-1 (NDM-1)	Shigella sonnei
	Enterobacter aerogenes	Streptococcus maltophilia
	Enterococcus faecalis	Streptococcus pneumoniae
	Erwinia carotovora	Streptococcus pyogenes
	Klebsiella pneumoniae	S. Typhimurium
	Klebsiella oxytoca	Enterococcus faecium (vancomycin resistant)
	Klebsiella pneumoniae (drug- resistant)	Vibrio cholerae
	Listeria monocytogenes	Vibrio vulnificus
	Listeria innocua	V. parahaemolyticus Yersinia enterocolitica
	<b>Viruses</b>	Adenoviruses
Coxsackie A		Influenza A H5N1
Coxsackie B		Influenza B
Coronavirus		Norovirus
Hepatitis A		Poliovirus
Herpes Simplex		Parvovirus
Influenza A H1N1		Rotavirus
<b>Protozoa</b>	Entamoeba histolytica	Giardia intestinalis
	Cryptosporidium parvum	
<b>Mold</b>	A.Flavus	A.Niger
	A.Fumigatus	
<b>Yeast</b>	C.Galbata	C Parapsilosis
	C.Krusei	C.Tropicalis
	C.Lusitaniae	Trichosporan ssp.
<b>Fungi</b>	Botrytis cinerea	Monilinia fructicola
	C.Albicans	

# SAFETY WARNING

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

## Handling and Storage

- Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
- Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Exposure Controls / Personal Protection

- Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.
- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection is not required under normal conditions of use.



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