



HOCl - Safe and Effective Disinfection Solution

A Good Disinfectant

A good disinfectant should have the capability of targeting a wide variety of organisms, i.e. bacterial, viral, and fungi microorganisms. It should also have a high efficacy in its action as an antimicrobial.

1. Non-inflammable - This property enables disinfectants to be used over large areas with no health or safety concern including use in areas with flammable products such as kitchen and laboratories
2. Fast drying with short contact time – This property is essential to decrease the duration of bio-decontamination. A fast-acting agent quickly destroys microbes hence reducing the duration of potential contact with the microbes.
3. Non-toxic - The disinfectant should not harm the user and cause any discomfort. It should be user-friendly.
4. Surface Compatibility - The disinfectant should have the capability to be used on most surfaces and instruments without corroding them or damaging their structural integrity.

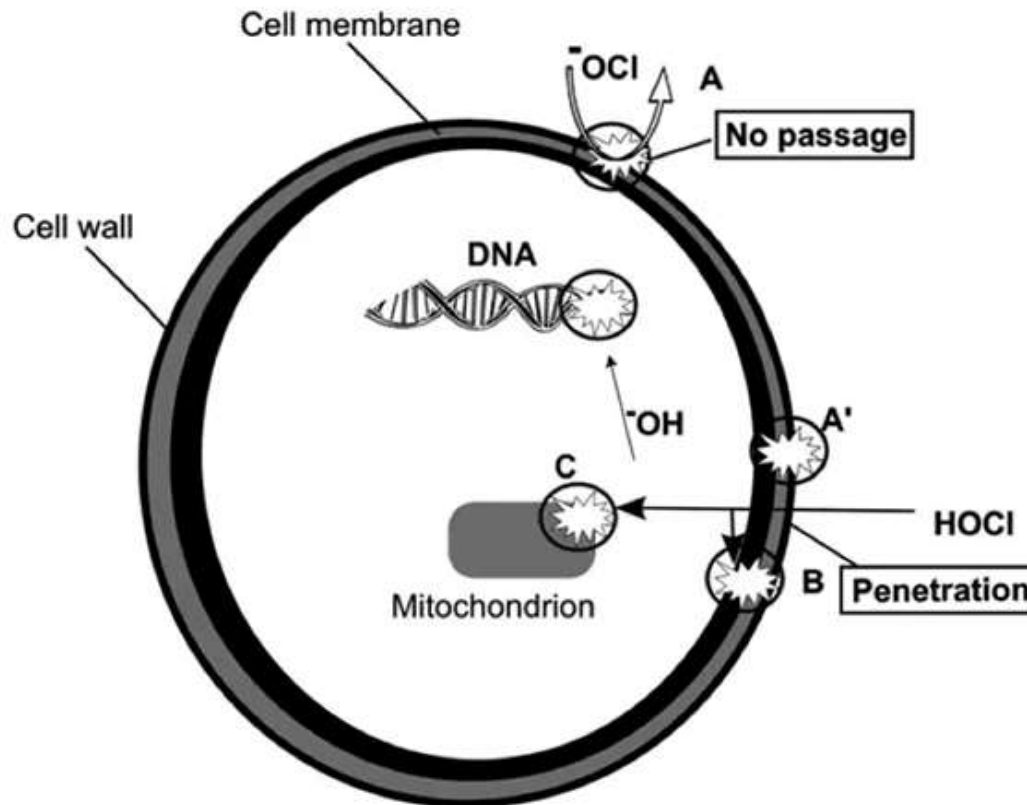
A Good Disinfectant (Continue....)

5. Ease of use - An ideal disinfectant should be easy to use, store and discard, with clearly labelled instructions.
6. Odourless - Ideal disinfectants should be odourless or with a pleasant smell to facilitate regular use.
7. Alcohol Free - [Alcohol based Hand Sanitizers](#) are contributing to many types of bacteria becoming alcohol resistant.
9. Environmental friendly - An ideal disinfectant should have the capability of being used in the environment without causing any harm to the users and the environment.

In addition to the ideal properties, the product should also be cost-effective and easily accessible.

[Hypochlorous acid \(HOCl\)](#) fits into these requirements for an ideal disinfectant as it has broad-spectrum efficacy, is odourless, non-flammable, non-toxic, fast drying, environmentally friendly and is easy to use.

As shown in the figure below, the surface of the cell membrane of an microbial is negatively charged, so the hypochlorite (ClO^-) cannot easily enter the cell interior, while the hypochlorite (HOCl) is a neutral small molecule, which can penetrate the cell membrane, enter the cell interior, and react with its internal DNA and mitochondria to make it die.





















Hypochlorous acid (HOCl)

Hypochlorous acid (HOCl) is a great choice to help protect your home and business environment. It is recommended to frequently cleanse work and home surfaces such as bathrooms, high traffic areas, countertops, doors, light switches, office equipment, food preparation equipment and all contact surfaces.

Electrolyzed Disinfectant Sprayer based on electrochemistry from sodium salt and water provides a safe and viable HOCl sterilizing solution at household.



Horizontal Comparison of Acid Electrolyzed Water

	Acid Electrolyzed Water	Sodium Hypochlorite	Rubbing Alcohol
Usage	<ul style="list-style-type: none"> Direct use  	<ul style="list-style-type: none"> Dilute in proportion  	<ul style="list-style-type: none"> Direct use 
Disposal after Disinfection	<ul style="list-style-type: none"> No need to clean  	<ul style="list-style-type: none"> Must be cleaned  	<ul style="list-style-type: none"> Quick drying 
Residual Property	<ul style="list-style-type: none"> No residue  	<ul style="list-style-type: none"> Remain on the surface  	<ul style="list-style-type: none"> Immediate volatilization without residue 
Impact on human body	<ul style="list-style-type: none"> Oral and Skin Non-toxic Drinking by mistake is harmless to human body  	<ul style="list-style-type: none"> Sodium hypochlorite will cause chemical burns to the skin, chlorine will be produced, and personal accidents will occur if drink by mistake  Gloves must be worn when using 	<ul style="list-style-type: none"> Different people may have alcohol allergy or acute alcoholism 
Flammability	<ul style="list-style-type: none"> Nonflammable  	<ul style="list-style-type: none"> Nonflammable  	<ul style="list-style-type: none"> Flammable 
Stimulating odor	<ul style="list-style-type: none"> Little smell of chlorine  	<ul style="list-style-type: none"> Strong smell of chlorine  	<ul style="list-style-type: none"> Strong alcohol smell 

In daily life, electrolysed water functions a crucial role widely in interior space and furniture disinfection, kitchen and bathroom cleaning, vegetable and fruit washing, etc.