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Necessary Disclaimer: This product cannot cure, mitigate, treat, or prevent a disease.

INTRO

Hypo-Cleanse is a hypochlorous acid solution (HOCl). Hypochlorous acid is a disinfectant that is lethal to every pathogen harmful to humans including pathogens such as MRSA, E. Coli, Candida, Meningitis, Encephalitis, Salmonella, HIV, Epstein Barr, and much more. *(See lab test results at the bottom of this info. sheet)*

It disinfects 120 times better than bleach (NaClO) – **yet is non-toxic and non-irritating!** Bacteria can't become resistant to it – in fact, it kills every pathogen (virus, bacteria, fungus, mold, etc) that it has been scientifically tested against. *(See the test results at the bottom of this information sheet.)*

Not only is hypochlorous acid an amazing disinfectant but it also has the ability to **speed up the healing process**. Why this is the case isn't exactly known but it more than likely has something to do with the redox molecules contained in this special solution allowing the cells to communicate with one another in a more effective way.

As mentioned above, Hypo-Cleanse is a hypochlorous acid solution. Although the word "acid" is in its name - it actually isn't acidic at all because hypochlorous acid only exists in a solution with a neutral pH. In order for this type of disinfectant to be most effective it has to have around a 6 pH balance.

The reported benefits of Hypochlorous Acid include:

- Speeds up healing of wounds. *(See Vetericyn link)*
- Disinfects wounds, cuts, burns, etc*
- Kills bacteria and viruses on contact including E.Coli, Listeria, Salmonella, HIV, and MRSA. *(See test results at the bottom of this information sheet.)*
- Kills fungi and molds on contact. *(See test results at the bottom of this information sheet.)*
- Isn't harmful to humans or animals.
- Non-irritating, non-stinging

The possible uses of Hypochlorous Acid include:

- Wound healing and disinfection.*
- Eye infections.*
- Ear infections.*
- Sore throats.*
- Flu's or other illnesses.*
- Food poisoning.*
- Disinfecting tools, surfaces, equipment.
- Disinfecting vegetables / fruits / meats.
- Disinfecting ill / deceased bodies.*
- Disinfecting areas that have been infected by vomit or diarrhea.
- Disinfecting linens / materials (Think of disinfecting linens covered in diarrhea, vomit, or blood in disaster situations.)
- Disinfecting ALL airborne pathogens by placing in a humidifier.
- Disinfecting water of all pathogens.*
- Disinfecting dishwashers.

History of HOCl

Hypochlorous Acid was discovered by chemists in the early 1800's and has been used sporadically since that time. There are even reports of it having been used to treat wounds in soldiers during WWI. (1)

HOCl is something that is unstable and tends to revert back into the solution that it was created from. The quest to create a stable form of HOCl that is usable has been a worldwide endeavor. Today there are a number of companies in all parts of the world that claim to have stable forms of HOCl that can be used topically and internally by humans and animals

What Is It?

Hypochlorous Acid is a weak, but strongly oxidizing acid and bleach. The reason why it is so destructive is because it has a very high reduction potential. This means that it has a strong ability to tear electrons from the atoms of other substances. This removal of electrons changes both substances. The HOCl (receiving the electrons) is neutralized and the other substance (losing the electrons) is changed enough that it is usually destroyed.

In all living things, HOCl oxidizes the cell walls of the living thing it comes in contact with. It then reacts with it and destroys it by breaking down the cell wall and causing necrosis (rupturing of the cell) or apoptosis (programmed cell death). Anything left of the cell contents are then destroyed by remaining HOCl. Even though a virus is not technically a living thing, it too is destroyed by HOCl.

Yet in spite of this destructive potential to living things, HOCl is something that our body produces and uses as part of our immune system. This process is called phagocytosis.

Whenever the immune system is compromised, the body detects the compromised location and sends white blood cells through the body to fight the invading pathogens. The white blood cells attack, surround (or eat), and destroy (digest) the pathogen using a process that creates solutions that involve Hypochlorous acid as an end product.

Some studies (2) have shown that, even though our own body produces HOCl to fight infection, it does not mean that our own cells are not negatively affected by it. There is evidence to show that tissue inflammation due to injury may be a result of the same HOCl generated by phagocytosis.

This constant exposure to HOCl, may be the reason our body has adapted and developed ways to protect itself from HOCl. Even in weak solutions, HOCl is irreversibly lethal to pathogens, but tolerable to mammalian cells. The reason WHY it is tolerable is not well understood, but studies from private and government sources have shown it to be so.

Ruthigen, a company working toward developing a marketable infection fighting drug, says this on their site: *"Mammalian cells contain cellular amino acids and pumps that assist in neutralizing*

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HOCl and keeping mammalian cells safe. Mammalian cells contain amino acids such as Taurine that help protect the cells from the oxidation process caused by HOCl."

In 2008 Graduate students at Yonsei Medical University in Seol Korea successfully proved that a saline nasal rinse containing HOCl killed bacteria and fungus but did not irritate the nose. Vetericyn, which sells HOCl spray for animal infections, shows customer testimonials with photos of remarkably fast healings due to use of this spray.

Outside of use on living things, it is used even more frequently in food processing plants because of its amazing ability to disinfect equipment for meat and dairy products without introducing any hazardous chemicals into the food. Hypochlorous Acid is one of the disinfectants [approved by the FDA](#) for use in food processing equipment and utensils (3)

This is a solution that is lethal to every pathogen harmful to humans yet remains non-toxic to mammals!

Healing Properties

HOCl has long been recognized for two important healing characteristics: It has the ability to help wounds heal faster and to do it painlessly. Even though it is not fully understood why it does this, one thing is clear: a wound clean from pathogens heals faster.

HOCl does not sting when applied to a wound. Alcohol, commonly used for sterilizing a wound, destroys pathogens by drying out the cells. Unfortunately, it does the same thing to the living tissue, as well as any white blood cells that are there to fight infection. Not only does it destroy any natural defenses on the injured site but the process is extremely painful and reduces the chance that the injured person will allow further treatment.

HOCl can only exist in a neutral pH solution which also makes it highly tolerable to the body. It does not damage living tissue nor any of the body's natural defenses (white blood cells) that are on site working to repair damaged tissue. *This makes it one of the best first aid solutions available.*

In 2011 Ruthigen performed a study to compare the success rate of healing a diabetic foot ulcer with HOCl vs antibiotics. The results showed a 93% success with antibiotics with HOCl vs a 56% success rate with antibiotics and saline in a 28 day period (4).

The Vetericyn brochure shows amazing results in less than 30 days on the ugliest of wounds treated with the HOCl product.

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Where it comes from

Hypo-Cleanse is made by taking a brine solution (NaCl and H₂O) and putting it through a specialized piece of equipment that electrically separates the atoms through electrolysis. The process yields Hypochlorous Acid (HOCl) and the Hypochlorite Ion (OCl⁻). The important part of the process is to create a solution that maintains a neutral pH. While HOCl and OCl⁻ both fight bacteria, they are not present in equal proportions and it is the HOCl that is most effective at fighting bacteria. HOCl exists most abundantly in a neutral pH and according to a University of Illinois study, **HOCl is 120 times more effective as a sanitizer than the – OCl ion.**

Hypo-Cleanse is constantly checked for pH to assure that it is at the levels where the most possible HOCl can exist.

Shelf Life

The exact shelf life is dependent upon a number of factors. Exposure to air and sunlight causes it to revert back to water quicker than if it is left undisturbed. Storage in a cool dark area will keep your product potent for 5 years or more. If you can smell the “bleach” or chlorine-like smell in it then it is most likely still potent. If it smells or tastes more like water then it is most likely losing its potency.

Warning Labels on the Bottle and Common Sense Use

In a more concentrated solution, Hypochlorous Acid is obviously dangerous to humans and animals, but not at the concentration found in Hypo-Cleanse. Even though Hypo-Cleanse is not caustic in any way, it should still be used with care. Do not mix it with any other cleaning solutions. Please read below to see how we have used it.

Use Hypo-Cleanse:

For disinfecting water:

- 1-2 cups in 55 gallon drum of water. (Change every 2 years.)
- ½ tsp in gallon of water.
- (Note: This only kills all pathogens – it doesn’t pull out heavy metals, radiation, etc. you’d need something like charcoal or bentonite clay to do that.

For disinfecting the air:

- 1 part Hypo-Cleanse in 5 parts water poured into ultrasonic humidifier that where the filter has been taken out. Humidify one room for an hour or more.

For disinfecting surfaces, tools, etc:

- Either use straight or dilute to a 1:5 ratio – (so it’s down to a 30ppm ratio). 1 part Hypo-Cleanse to 5 parts water.

For disinfecting wounds, cuts, burns, etc:

- Either use straight or dilute to a 1:5 ration. 1 part Hypo-Cleanse, 5 parts pure water. Spray onto wound.



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Eye / Ear Infections:

- Either use straight (doesn't harm / hurt) or dilute to 1:5 ratio. 1 part Hypo-Cleanse, 1 part pure water. Drop into ear with dropper, 10-15 drops, let sit for 1 minute, allow to drain out onto tissue. 1-2 x per day.

For Sore Throats:

- Gargle straight or dilute to 1:3 ratio

For Burns:

- Spray on either straight or dilute to 1:3 / 1:5 ratio. 1 part Hypo-Cleanse and the other parts Hypo-Cleanse.

Cold Sores:

- Apply directly onto cold sore – no dilution is necessary. Rub in a bit. Apply a few times a day.

Visit this link (http://vetericyn.com/downloads/marketing/vets/VetericynVF_catalog.pdf) to view the information sheet of a product called Vetericyn. It lists how they safely and effectively use it for treating all manner of issues for dogs. This pdf file says a lot.

Extra Information Sheet:

Hypo-Cleanse is basically electrolyzed water that kills bacteria, germs, viruses, mold, fungi, and spores. It is a stable electrolyzed water solution. It is a non-hazardous, cost-effective alternative to bleach and other traditional hazardous chemicals used for disinfection.

Hypo-Cleanse is as much as 100 times more effective against bacteria than bleach. Hypo-Cleanse is produced from a simple salt water solution making it completely safe and environmentally green.

Hypo-Cleanse is a strong oxidizing solution that kills microorganisms including but not limited to viruses, fungi, spores, mold, mildew, mycobacterium and bacteria.

Hypo-Cleanse is up to 100 times more effective than bleach at 1/10th the concentration.

Hypo-Cleanse is produced at 6.3 to 6.5 pH which is considered the most effective range for a solution like this.

Due to its oxidizing potential the hypochlorous acid transfers atomic oxygen in the form of a "radical" to the microorganism, which destroys the organism.

The smaller the disinfectant droplets are, the higher the airborne "killing" ability is. In this sense, high frequency ultrasonic humidifiers are the most suitable technique to generate uniformly micrometer-sized droplets, which can be evaporated immediately.

Laboratory Testing of HypoRedox™ Hypochlorous Acid (HOCL) Against Various Microorganisms

Clarcon Biological Chemistry Laboratories: Roy, Utah

	Percent reduction after ultrasonic aerosol	1 to 6 Sec. Contact	7 to 10 Sec. Residual
<u>Clostridium</u>	<i>Pseudomembranous colitis C.diff</i> -Botulism-Tetanus-Gas Ganrene	97%	83%
<u>Bacilli (class)</u>	<i>Strep</i> : Alpha (pneumoniae, mutans, viridans) – Beta A pyogenes (Scarlet fever, Erysipelas, Rheumatic fever, Streptococcal pharyngitis), B Agalactiae- D Entero-	92%	88%
<u>Coccus</u>	<i>Staphylo</i> – Toxic Shock Syndrome, <i>Mastitis</i> <i>Bacillus</i> (shape) <i>Bacillus</i> (Anthrax – <i>Listeria</i> (Listeriosis)	96% 91%	84% 89%
<u>Actinomycetales</u>	Actinomycetoma (Whipples's disease) – <i>Corynebacterium</i> (<i>Diphtheria</i> , <i>Erythrasma</i>) – <i>Nocardia</i> (<i>Nocardiosis</i> , <i>Masurumycosis</i>)	90%	80%
<u>Mycobacterium</u>	M. tuberculosis (Tuberculosis): Ghon focus/Ghon's complex – Pott Disease – brain (Meningitis, Rich focus) – cutaneous (Scrofula, Bazin disease, <i>Lupus vulgaris</i> , Prosector's wart) – Miliary M. leprae (leprosy) Nontuberculous: <i>Mycobacterium avium</i> (Lady Windermere syndrome) <i>Mycobacterium ulcerans</i> (<i>Buruliulcer</i>)	95% 100% 92%	85% 95% 90%
<u>Spirochetal</u>	<i>Treponema</i> : Syphilis (Bejel) – Yaws – Pinta <i>Borella</i> : Relapsing fever – <i>Lyme disease</i> (<i>Erythema chronicum migrans</i> , <i>Neuroborreliosis</i>)	90% 100%	80% 95%
<u>Mycoplasmatales</u>	multiple/unknown: Noma – Trench Mouth – Rat-bite fever – Leptospirosis	93%	83%
<u>Chlamydiae</u>	<i>Mycoplasma pneumoniae</i> – <i>Ureaplasma</i> infection	97%	85%
<u>Chlamydiae</u>	<i>Chlamydomphila</i> (<i>Psittacosis</i>) – <i>Chlamydia</i> (<i>chlamydia</i> , <i>Lymphogranuloma</i> <i>venereum</i> , <i>Trachoma</i>)	99%	89%
<u>Proteobacteria</u>	a/ <i>Rickettsiales</i> / Typhus, spotted fever/Rocky Mountain Boutonneuse fever	100%	99%
<u>Anaplasmataceae</u>	<i>Ehrlichiosis</i> Human granulocytic ehrlichiosis, Human monocytic ehrlichiosis Other: <i>Coxiella</i> (Q fever)– <i>Bartonella</i> (Trench fever)– <i>Orientia</i> (Scrub typhus)	99% 99%	89% 81%
<u>Rhizobiales</u>	<i>Brucellosis</i> – Cat scratch fever – Bartonellosis (<i>Bacillary angiomatosis</i>)	100%	90%
	B <i>Neisseriaceae</i> : <i>Meningococcus</i> – Gonorrhoea <i>Burkholderiales</i> : Glanders – Melioidosis – Pertussis	100 % 97%	90% 83%
	<i>Enterobacteriaceae</i> : <i>Salmonella</i> (Typhoid fever, Paratyphoid fever, Salmon- Ellosis) – <i>Yersinia pestis</i> (plague/Bubonic plague) – <i>Klebsiella</i> (<i>Rhinoscleroma</i> , <i>Donovanosis</i>) – <i>Shigella</i> (<i>Shigellosis</i>) – <i>Escherichia coli</i> /O157:H7 – <i>Proteus</i>	99.9%	89.7%
	<i>Pasteurellaceae</i> : <i>Pasteurella</i> (<i>Pasteurellosis</i>) – <i>Haemophilus</i> (<i>Brazilian</i> <i>Purpuric fever</i> , <i>Chancreoid</i>) – <i>Actinobacillus</i> (<i>Actinobacillosis</i>)	96%	84%
	Other: <i>Francisella</i> (<i>Tularemia</i>) – <i>Vibrio</i> (<i>Cholera</i>)		
	Y <i>Legionella</i> (<i>Legionellosis</i>) – <i>Pseudomonas</i> – <i>Serratia</i>	98%	89%
	E <i>Campylobacteriosis</i> – <i>Helicobacter</i>	99.5%	89.9%
<u>Bacteroidetes</u>	<i>Bacteroides</i>	100%	97.9%
<u>Other</u>	<i>Gardnerella</i>	98.9%	89.9%
<u>VIRUS</u>			
	<i>Adenoviridae</i> : adenovirus	97%	100%
	<i>Picornaviridae</i> : coxsackievirus, hepatitis a virus, poliovirus	98%	98%
	<i>Herpesviridae</i> : Epstein-barr virus, herpes simplex virus, type 1 and 2, human Cytomegalovirus, human herpesvirus, type 8, varicella zoster virus	91%	89%
	<i>Hepadnaviridae</i> : Hepatitis B virus	100%	98.9%
	<i>Flaviviridae</i> : Hepatitis C virus	98.9%	99%
	<i>Retroviridae</i> : Human immunodeficiency virus (HIV)	50%	49%
	<i>Orthomyxoviridae</i> : (TYPE A) influenza virus	79%	73%
	<i>Paramyxoviridae</i> : measles virus, mumps virus, parainfluenza virus		
	<i>Respiratory syncytial virus</i>	83%	80%
	<i>Papovaviridae</i> : papillomavirus	100%	98.9%
	<i>Rhabdoviridae</i> : rabies virus	100%	99.8%
	<i>Reoviridae</i> : Rotavirus	99.2%	99.1%
	<i>Togaviridi</i> : Rubella virus	94.6%	93.4%

Vetericyn Lab Results

Vetericyn, a product used for dogs and other animals, also did some lab studies regarding the efficacy of their hypochlorous acid product. Here are their results:

Works Naturally

Vetericyn® works naturally with the animal's own immune system. Vetericyn does not contain steroids, antibiotics or alcohols, making it safe for a wide range of animals with even the most sensitive systems.

Great for:

- Acute and chronic wounds
- Burns
- Skin infections and irritations including dermatitis
- Fungal infections such as ringworm
- Post-surgical sites
- Skin ulcers, abscesses and hot spots
- Skin rashes and allergies
- Eye infections*
- Ear infections**

**For superficial use with intact cornea*

In Solution Vetericyn kills the following:

Name of Organism	Time to Kill	Percent Reduction
MRSA - Staphylococcus aureus	30 seconds	99.9999%
VRE - Enterococcus faecalis	30 seconds	99.9999 %
Staphylococcus aureus	30 seconds	99.9999%
Pseudomonas aeruginosa	30 seconds	99.9998%
Escherichia coli	30 seconds	99.9997%
Moraxella bovis	30 seconds	99.9999%
Moraxella catarrhalis	30 seconds	99.9999%
Acinetobacter baumannii	30 seconds	99.9999%
Bacteroides fragilis	30 seconds	99.9999%
Candida albicans	30 seconds	99.9999%
Enterobacter aerogenes	30 seconds	99.9999%
Enterococcus faecium	30 seconds	99.9999%
Haemophilus influenzae	30 seconds	99.9993%
Klebsiella oxytoca	30 seconds	99.9999%
Klebsiella pneumoniae	30 seconds	99.9999%
Micrococcus luteus	30 seconds	99.9999%
Proteus mirabilis	30 seconds	99.9999%
Serratia marcescens	30 seconds	99.9999%
Staphylococcus epidermidis	30 seconds	99.9998%
Staphylococcus haemolyticus	30 seconds	99.9999%
Staphylococcus hominis	30 seconds	99.9996%

Staphylococcus saprophyticus 30 seconds 99.9999%
Streptococcus pyogenes 30 seconds 99.9999%