

## PCS Hypochlorous acid/sodium hypochlorite cleaning with a neutral ph to protect public health.



Maximize mildness to skin.



Reduce chemical residues.



Improve cleaning performance.



Maximize antimicrobial properties.



## Stabilized hypochlorous acid - HClO

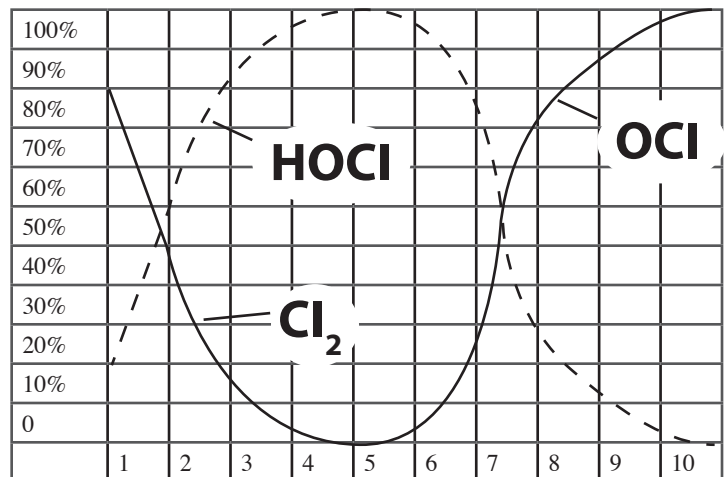
Hypochlorous acid is a chemical that is normally produced in the human white blood cells in response to injury and infection. It is a chemical that is well studied and researched, it is regarded as a medical panacea as it is much more antiseptic than anything we have at present. Its wound healing capabilities and beneficial effect on inflammation are also well known.

1. HClO is more antiseptic against bacteria, viruses and fungi than its salt (hypochlorite). Hypochlorite is currently the preferred chemical for sterilizing surfaces in hospitals.
2. When it comes into contact with human tissues, HClO shows no sign of toxicity and no hypersensitivity develops. There was no sign of any mutagenic changes during fetal development (negative Ames test). This stands in strong contrast to currently used chemicals that many demonstrate skin sensitivity.
3. HClO stimulates the regeneration gene when in contact with open wounds. This results in wounds healing in up to two thirds of the time less than under normal conditions. There is very little scarring when compared to the normal healing process where fibroblasts regulate the process and scar tissue formation is the norm.
4. HClO has a strong anti-inflammatory effect, which is regarded to be as strong as the cortisone dexamethasone, but without the negative side effects associated with cortisone use. This reduces scar formation, pain, redness and swelling during the healing process. The anti-inflammatory effect has also been cited as the reason why hypochlorous acid was proven to prevent neo-vascularization during healing in injured or infected

corneas, thereby preventing corneal whitening as is so often seen. This opens a huge possibility for the treatment of eye injuries and contact lens care. Psoriasis also responds well to HClO.

5. HClO also has been shown to heal chronic ischemic wounds as is seen in the lower legs of diabetic individuals. Hypochlorous acid (HOCl) forms an equilibrium with sodium hypochlorite (OCl) in liquid solutions

The figure below shows the effect pH has on the equilibrium.



Below pH 2 the equilibrium favors chlorine. Between pH 2 and 7.4 hypochlorous acid predominates and above pH 7.4 hypochlorite predominates.

- [1. Inactivation of bacteria on surfaces by sprayed slightly acidic hypochlorous acid water: in vitro experiments.](#)
- [2. Effect of weak acid hypochlorous solution on selected viruses and bacteria of laboratory rodents.](#)
- [3. Aerosol disinfection capacity of slightly acidic hypochlorous acid water towards newcastle disease virus in the air: An in vivo experiment.](#)
- [4. Topical hypochlorite ameliorates NF-B-mediated skin diseases in mice.](#)
- [5. Cleaning and disinfecting environmental surfaces in health care: Toward an integrated framework for infection and occupational illness prevention.](#)
- [6. Hypochlorous acid for definitive terminal cleaning of the hospital environment.](#)
- [7. Evaluation of sprayed hypochlorous acid solutions for their virucidal activity against avian influenza virus through in vitro experiments.](#)
- [8. A randomized clinical trial: The efficacy of hypochlorous acid on septic traumatic wound.](#)
- [9. Hypochlorous Acid - Analytical methods and antimicrobial activity.](#)
- [10. Inflammatory skin damage in mice blocked by bleach solution, study finds.](#)
- [11. WOUNDS® May 2015 - Expert Recommendations for the use of hypochlorous solution: Science and clinical applications.](#)
- [12. Use of hypochlorous acid solution as a disinfectant in laboratory animal facilities.](#)
- [13. Hypochlorous Acid: An ideal wound care agent with powerful microbicidal, antibiofilm, and wound healing potency.](#)
- [14. Occupational health risks associated with use of environmental surface disinfectants in health care.](#)
- [15. Topical hypochlorous acid \(HOCl\) as a potential treatment of pruritus.](#)