



H2autO Hypochlorous System



VIDA
SOLUTIONS

Background

Vida Solutions is a social enterprise initiative of the non-profit New Life International (NLI) based out of Bloomington, Indiana, USA. The goal of Vida Solutions is to further the reach of its technology and innovation to benefit the global community with the ambition to establish income-generating avenues for poor and marginalised people groups in a sustainable and generous manner. We are a small organization with big dreams. Vida Solutions, as a social enterprise, is the official operator and distributor of the H2autO Hypochlorous system, developed by New Life International, and its products.

Hypochlorous Acid

Hypochlorous acid, the gold standard of disinfection, is a weak acid that is made by human white blood cells as part of the immune system. This substance made by the human body is familiar, helpful, and – most importantly – very deadly to bacteria and viruses. Hypochlorous acid can be used in wound healing, sanitation, and disinfection applications. It is essentially a water molecule that has one of its hydrogen atoms removed and replaced with a chlorine atom.

For individuals with limited access to clinics and hospitals, wounds large and small can increase one's morbidity and mortality. Wounds are often susceptible to harmful biofilms which serve as barriers that prevent wounds from healing properly.

Hypochlorous acid effectively dissolves biofilm when hypochlorous is applied frequently. It is increasingly used by those in the medical field. In addition, hypochlorous acid can be used as a surface disinfectant and hand sanitiser to destroy harmful bacteria. When used regularly on surfaces, hypochlorous helps prevent the spread of disease and sickness in homes, cooking areas and public gathering spaces. Most importantly, in hospitals and clinics where sanitation is of utmost importance, it helps prevent antibiotic-resistant infections.



H2autO Hypochlorous System

Medical-grade hypochlorous acid has a shelf-life. It is also expensive and unaffordable for the most vulnerable patients in the developing world. The H2autO Hypochlorous System was invented by New Life International, which is the parent organization, and NGO arm, of Vida Solutions. The System has the ability to produce life-changing hypochlorous acid on-site for an affordable rate. Our hypochlorous acid is produced using a modified NLI-patented Water Purification System.

The H2autO Hypochlorous System consists of the following:

- Control panel
- Hypochlorous acid and Cooling Water Poly tanks (both have a 15-gallon (57 litre) capacity)
- Electric pumps
- FDA tubing, valves, and fittings.
- The software used to control the system runs on a proprietary company platform.

The image below highlights an example of an installed system. The hypochlorous acid tank and recirculation pump are on the left, the cooling water tank (with pump inside) is on the floor, and the system is mounted on the wall on the right. The blue container on the floor is a catch container for overflow from the sodium hydroxide chamber. Sodium hydroxide, like hypochlorous acid, can also be used as a disinfectant solution. The clear tubing interconnecting the components and translucent poly tanks allow the operator to see what is happening during operation. The hypochlorous PPM results are measured using calibrated test strips provided with the H2autO Hypochlorous System.



H2autO Hypochlorous Process Overview

Hypochlorous acid is made in a batch process. The system uses the process of electrolysis to separate sodium (Na^+) and chlorine (Cl^-) ions from a sodium chloride (NaCl) salt solution. Ions are positively or negatively charged particles. Sodium ions and hydrogen gas pass through the purifier membrane into the sodium hydroxide chamber. The low concentration hydrogen gas vents out through the sodium hydroxide chamber open top. Mixed oxidants in the salt chamber migrate to the surface of the liquid and are injected into the water to form hypochlorous acid.

The amount of water (preferably demineralized water, or reverse osmosis (RO) water) to be in the product converted to hypochlorous acid is introduced into the empty hypochlorous acid tank. The water is recirculated in the tank by the circulation pump outside the tank. This water as it is recirculating passes through the venturi which creates a vacuum that draws the mixed oxidants off the salt chamber and then injects the gas into the water. The concentration of hypochlorous in the water increases the longer the process operates.

The water in the cooling tank is used to cool the fluid in the sodium hydroxide chamber via a submersible pump in the cooling water tank. Cooling water passes through a u-shaped heat exchanger immersed in the liquid of the sodium hydroxide chamber. Cooling in the salt chamber is achieved by air being pulled in through the tubing from the hypochlorous acid tank. This air moving through the salt solution picks up heat from the liquid and carries it away. As normally operated, cooling water is circulating through the heat exchanger in the sodium hydroxide chamber and cooling water tank; water is circulating in and out of the hypochlorous acid tank; and mixed oxidant gas is pulled off of the salt chamber and forms hypochlorous in the hypochlorous acid tank.

For a hypochlorous acid batch size up to 15 gallons (57 liters), the process will take approximately 3-5 hours. Once the hypochlorous acid level in the tank liquid has been tested for the desired concentration, the hypochlorous acid is ready to be bottled for use.

[To learn more, watch our Hypochlorous Story](#)



For more information on our H2autO technology and its various applications, virtual and on-site training and consultation opportunities, please contact us.



Contact us

E-mail: pramil.aruldoss@vidasolutions.com

Website: www.waterfortheworld.org