NatureChlor
NatureChlorMax

Operating Instructions

CONTROLOMATIC

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MADE IN USA

@naturechlor

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Introduction

NatureChlor is a semi-automated, saltwater chlorine generation system specifically designed to make high-value hypochlorous acid (HOCl) efficiently. NatureChlor generates chlorine from a small amount of ordinary, non-iodized salt (Sodium Chloride, NaCl) dissolved in the water. It's about 90% less concentrated than ocean water and is below the typical taste level of most humans. One teaspoon per gallon is all it takes for NatureChlor to produce fresh electrolyzed water.

How does NatureChlor work?

The process is called electrolysis. Applying electrical current to a saltwater solution makes electrolyzed water, and when vinegar is added to regulate pH, the current splits the molecules up into a disinfectant/sanitizer called hypochlorous acid. The resulting solution is non-toxic and works better than bleach.

In a short amount of time, electrolyzed water reverts back to normal water and salt. That time can be a week or two, so it doesn't store well on the shelf at a store. If you want to use HOCl, you generally have to make it yourself. The equipment to do that can be costly, and that is where NatureChlor comes in—a low cost system to make your own.

HOCl looks just like regular water. Since it is a sanitizer and not a soap-based product, it will not lather, make bubbles, or emit a strong smell, as some people may expect. Oftentimes, those effects are from additives to the product, and we are proud to say that our recipe does not include any of those extra chemicals—the only ingredients to make HOCl are water, salt, vinegar, and electricity.

Applications of HOCl include, but are certainly not limited to:

- Anything you need sanitized
- Anything you need cleaned
- Kitchen utensils and cooking surfaces
- Kitchen and bathroom surfaces/floors
- Hot tubs, spas, and swimming pools
- Hospital bedding
- Shoes before entering the house
- Grocery store shopping carts
- Fruits and vegetables
- And many more!

Precautions

- Keep out of reach of children.
- Store salt and potassium carbonate in a dry place.
- Only use plain tap water or purified water.
- Keep the power supply (12V 2A) dry, indoor use only.

Operation: Sanitation & Disinfection

Electrolyzed Water for Disinfection and Sanitation

Generates HOCl (hypochlorous acid) measured in PPM (parts per million):

- Add 1 quart of tap water to a tall liquid container.
- Add ¼ teaspoon of pure salt (NaCl), with no iodine or anti-caking agents.
- Add ½ teaspoon of white vinegar.
- Place the electrode into the container. The electrode should be totally submerged.
- Connect the power supply to the electrode and plug it in.
- Allow to run for 15 minutes.
- Measure the free chlorine and pH level when done. For higher concentrations, leave on for longer.
- There is a shelf life, so use within 1 to 2 weeks.

***Important:** The chemical composition of tap water can vary based on location, so the amount of vinegar needed may vary. Always test your solution to ensure that the pH is at the desired level.

***Please View the Production Reference Table on Page 5 for more guidance.**

Notes:

1. Use pure salt (NaCl) with no additives, like iodine or anti-caking agents.
2. White vinegar (liquid or powder) can be used to lower the pH. **The pH should be 7 or less for hypochlorous acid to be the dominant free chlorine type.**
3. Always **measure** the chlorine and pH levels for best results.
4. To make more than a quart at a time, increase the salt level, vinegar, and run time appropriately.
5. If you need to add more **salt**, add it slowly and make sure it fully dissolves before adding more. Also make sure that the **power supply** does not get very warm, since that indicates that the power supply is being overworked.
6. Adjust the water **temperature** to be around 70 degrees Fahrenheit (21 degrees Celsius) for best results.
7. When using a **spray bottle**, occasionally run warm water through the nozzle, to dissolve any salt that may have built up inside.
8. Salt, vinegar, spray bottle, and container not included.

Operation: Cleaner & Degreaser

Electrolyzed Water for Cleaning and Degreasing

Substitute salt with potassium carbonate (K_2CO_3) and experience a whole new variation of what NatureChlor can do. Now you have a cleaner and degreaser, which is potassium hydroxide (KOH). KOH is generally recognized as safe (GRAS) by the FDA and works great as a heavy-duty degreaser for kitchen counters, ovens, stovetops, barbeques, and floors. It is a safe, non-toxic, and all-natural solution produced with just water, potassium carbonate, and electricity.

Generates KOH (Potassium Hydroxide):

- Add 1 quart of tap water to a tall liquid container.
    - For NatureChlorMax: add 1 gallon instead.
- Add ½ teaspoon of potassium carbonate (K_2CO_3).
    - For NatureChlorMax: add 2 teaspoons instead.
- Place the electrode into the container. The electrode should be totally submerged.
- Connect the power supply to the electrode and plug it in.
- Allow to run for 8 minutes, or for longer for a higher concentration.

Notes:

1. To make more than a quart at a time, increase the potassium carbonate level and run time appropriately.
2. Do not add more than a ½ **teaspoon potassium carbonate** per quart (2 **teaspoons** per gallon for NatureChlorMax), since the power supply will not work at higher concentrations.
3. Adjust the water temperature to be around 70 degrees Fahrenheit (21 degrees Celsius) for best results.
4. When using a **spray bottle**, occasionally run warm water through the nozzle, to dissolve any potassium carbonate that may have built up inside.
5. Potassium carbonate, vinegar, spray bottle, and container not included.

Electrode Cleaning

Over time, the titanium electrode plates may develop a white calcium coating, which will decrease the efficiency. Simply unplug the power supply from the wall and place the electrode into a tall vase with white vinegar to dissolve the calcium.

Production Reference Table

	NatureChlor (1 qt / 0.9 L)	NatureChlorMax (1 gal / 3.8 L)	NatureChlorMax (5 gal / 18.9 L)
Salt	¼ tsp	1 tsp	2 Tbsp
Vinegar	½ tsp	2 tsp	3 Tbsp
Run Time	15 min	15 min	45 min
HOCl	200 PPM	200 PPM	200 PPM

Notes:

1. Run time and results may vary. **Always** test your end solution to ensure desired pH and HOCl PPM levels.
2. The **salt** levels listed in this table are intentionally on the **low** side, to account for a wide variety of possible water sources, so some users may need to add **more** than listed to obtain the same HOCl PPM levels.
3. If you need to add more **salt**, add it slowly and make sure it fully dissolves before adding more. Also make sure that the **power supply** does not get very warm, since that indicates that the power supply is being overworked.
4. Adjust the water **temperature** to be around 70 degrees Fahrenheit (21 degrees Celsius) for best results.
5. Increase the **run time** to increase HOCl PPM levels, i.e. doubling the run time approximately doubles the final PPM.
6. When adding **time**, verify that the pH is below 6, since the pH rises as part of the HOCl production process, and the final solution needs to have a pH of 7 or less.

Thank you!

We are so happy that you have chosen to utilize a NatureChlor product to keep your home, work, and loved ones safe. Together, we can contribute to the improved well-being and safety of ourselves and those around us. If you require any assistance with your product, or would just like to provide some feedback, please feel free to contact us at **support@controlomatic.com**. We value our customers' feedback and utilize it to fuel innovation for continued development of all of our products.

If you enjoy your NatureChlor, please share with your friends, family, and social media, so we can distribute the benefits of NatureChlor all over the world!