

# Sanitize and disinfect onboard without using harmful chemicals! How?

Making a sanitizer/disinfectant is easy. Just fill the pitcher with water and add food grade salt. Power on the system and within minutes a sanitizer/disinfectant is generated and ready for use.

The generated sanitizer/disinfectant is 80-100 times more effective than bleach but totally harmless to the human body!



Why use harsh sanitizing and disinfection chemicals when there are safer, cheaper and much more environmentally safe alternatives?



**AQUAREX EcoOne makes sanitizer on-site – instantly ready for use everywhere!**

EcoOne is perfect for sanitizing galleys, toilets, floors, rails, cabins – basically anywhere you want to eliminate bacteria and viruses such as COVID, Salmonella, Listeria, Ecoli etc.

# Can I really use the same liquid to sanitize surfaces and food? Absolutely!

Sanitizer/disinfectant produced by EcoOne has been cleared by the FDA for no-rinse sanitation of meat, poultry, seafood, and produce.

Using electrolyzed water as a no-rinse sanitizer in preparation kitchens for meat, poultry, seafood, and produce can greatly reduce the incidence of foodborne illness and reduce water consumption.



 **AQUAREX**

Produce as much sanitizer/disinfectant as you need, when you need it .... and use it everywhere to combat microorganisms, bacteria, virus and fungus.



## Anti-bacterial rinsing

Our sanitizer/disinfectant is also perfect for antibacterial rinsing of laundry. Just fill the pitcher with 1 liter water and add 2 grams of salt. Power on the system and after 8 minutes the most environmentally friendly and effective antibacterial rinser, is ready for use.

# AQUAREX EcoOne

## Technical Specification

### PERFORMANCE

#### Concentrations up to 200 ppm of hypochlorous acid (HOCl)

Production Rate (Setting 1): 1 Liter at 40 ppm in 3 minutes  
Production Rate (Setting 2): 1 Liter at 60 ppm in 5 minutes  
Production Rate (Setting 3): 1 Liter at 100 ppm in 8 minutes  
Production Rate (Setting 3): 1 Liter at 200 ppm in 16 minutes

Oxidation Potential of Anolyte (HOCl): +800 to +1000 mV

#### Concentrations over 400 ppm of hypochlorous acid (HOCl)

After generating 200 ppm, if you continue to run additional cycles on setting 3 (8-minute cycles), each additional cycle will raise the concentration approximately 80 ppm.

Production Rate (Setting 3): 1 Liter at 400 ppm in 40 minutes (five 8-minute cycles)

### EXPECTED LIFESPAN OF SYSTEM

The electrolysis cell is manufactured in titanium and has a typical lifespan of 3,000 cycles (8 minutes each).

### TECHNICAL SPECIFICATIONS

Pitcher size: 1 Ltr.

Electrolysis Cell: Titanium

Power Supply: 110V/220V, 50/60Hz

Dimensions: 21 x 15 x 36 cm (8.3 x 5.8 x 14 inches)

Weight: 0.6 kg (1.3 lbs.)

1. Lid
2. Power On/Off
3. Settings 3
4. Settings 2
5. Settings 1
6. Power Connection
7. One gram spoon
8. Power supply





# AQUAREX EcoOne

## User Manual



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## Generating Electrolyzed Water for Cleaning & Sanitation

**Generates hypochlorous acid (HOCl) with an ORP between +800 and +1000 (setting 3)**

1. Add tap water (or purified water) up to the 1 Liter mark
2. Add 2 grams of kosher salt \*
3. Add 1 tsp. of distilled white vinegar (5%) \*\*  
(optional but recommended to optimize pH)
4. Replace lid and connect power supply \*\*\*
5. Power On to generate hypochlorous acid

\* Use only food grade salt (NaCl). It is recommended to use pure and natural salt without iodine.

\*\* Adding vinegar will lower pH therefore allowing hypochlorous acid (HOCl) to be the dominant free chlorine molecule.

\*\*\* Power supply connector must be dry.



**Press to Power On**  
Press once for Setting 1  
Press twice for Setting 2  
Press three times for Setting 3

**Setting 3 – System runs for 8 minutes**  
Filled to 1 Liter mark – generates 100 ppm  
Run 2 cycles (16 min.) to generate 200 ppm

**Setting 2 – System runs for 5 minutes**  
Filled to 1 Liter mark – generates 60 ppm

**Setting 1 – System runs for 3 minutes**  
Filled to 1 Liter mark – generates 40 ppm



# Generating Electrolyzed Water for Cleaning & Degreasing

**Generates potassium hydroxide (KOH) with an ORP between -100 and -300.**

1. Add tap water (or purified water) up to the 1 Liter mark
2. Add 2 grams of potassium carbonate \*
3. Replace lid and connect power supply \*\*
4. Power On to Setting 3 to generate KOH in 8 minutes

\* Use only the potassium carbonate additive.

\*\* Power supply connector must be dry



## Measuring Hypochlorous Acid (HOCl) Solutions

### THINGS TO KNOW:

- The molecular formula for hypochlorous acid is HOCl
- HOCl is a free chlorine molecule that can be measured with chlorine test paper
- HOCl is most dominant in a chlorine solution between pH 4 and 6

### HOW TO MEASURE THE CONCENTRATION OF HYPOCHLOROUS ACID

Chlorine test paper provides a simple, reliable, and economical means to measure the concentration of free chlorine in sanitizing solutions. With color matches at 10, 50, 100 and 200 parts per million (ppm), test paper measures concentrations between 10 and 200 ppm.

10	50	100	200

### PRECAUTIONS

1. This appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience or knowledge, unless they have been given supervision or instruction.
2. This appliance should not be used by children and care should be taken when used near children.
3. To protect against risk of electrical shock, do not immerse the appliance base or power supply unit in water or other liquid. Do not clean in a dishwasher.
4. Turn appliance off before cleaning.
5. Use only with the detachable power unit that was provided with the appliance. Do not operate the appliance with a damage cord or plug.
6. Appliance is designed to be supplied from a separate extra-low voltage (SELV) power source; risk of electrical shock are minimal under normal conditions.
7. Store additives in a clean and dry location.
8. Only use normal tap water or purified water.
9. If the unit becomes damaged or leaks, immediately disconnect from the power supply at the wall.
10. To clean unit, rinse only with tap water.
11. Empty the pitcher after use and rinse with tap water.

*Disclaimer:* The content of this document is furnished for informational use only and is subject to change without notice. The generation of free chlorine solutions of HOCl can vary due to differences in water quality therefore measurements in parts per million (ppm) are approximations. Manufacturer assumes no responsibility or liability for errors or inaccuracies in the content of this manual.



# AQUAREX EcoOne

## How to clean and sanitize surfaces

### Rinsing by using AQUAREX EcoOne sanitizer

Make AQUAREX EcoOne sanitizer in pitcher #2:

- 1 ltr. purified water
- Add 2 grams of food grade salt
- Electrolyze for 8 minutes (Setting 3)

Pour 0,5 ltr. of the generated sanitizer into the rinsing compartment (normally used for fabric softener) and wait for the washing cycle to be completed.

Detergent can be used without sanitizer however, the best result is made by detergent for the main washing cycle and sanitizer for the rinsing cycle.

### How to clean/degrease and sanitize

#### Step 1 – Preparation

Remove loose dirt. Rinse with warm, potable water.

#### Step 2 – Clean/Degrease

Wash with hot water (approx. 40 °C) and AQUAREX EcoOne degreaser (1 part water and 1 part AQUAREX EcoOne Degreaser)

#### Step 3 – Sanitizing (bacteria and virus killing stage)

Apply AQUAREX EcoOne sanitizer by means of a suitable mist sprayer.

#### Step 4 – Air drying

Leave surfaces to air dry.  
Alternatively wipe with dry clean microfiber clothes after min. 1 minute

Hypochlorous acid must be **below** 20°C!  
Otherwise, there is no disinfecting effect!

Do I have to use Personal Protection Equipment (PPE)?

Detergent – **yes** (gloves)  
Sanitizer – **no**

# AQUAREX EcoOne

## How to disinfect food

### How to disinfect food

#### Step 1 – Preparation

Remove loose dirt. Rinse with warm, potable water.

#### Step 2 – Sanitizing (bacteria and virus killing stage)

Apply AQUAREX EcoOne sanitizer by means of a suitable mist sprayer.

#### Step 3 – Air drying

Leave the sanitizer on the food – it can be consumed without harming the human body.





# AQUAREX EcoOne

## FAQ

### **What is the active molecule in the disinfectant generated from water and salt?**

The active molecule is hypochlorous acid (HOCl). Hypochlorous acid is a powerful oxidant and is 100 times more efficient in killing bacteria than chlorine bleach or sodium hypochlorite (NaOCl). Hypochlorous acid is safe and natural. It is found in our blood as one of the most powerful biological oxidants generated by our white blood cells against invading pathogens.

### **Have you done research on SARS-CoV-2 (COVID-19 Virus)?**

Yes, we have done research on the SARS-CoV-2 (COVID-19 virus) using hypochlorous acid generated from our systems.

### **How long is the disinfectant active after being generated from the EcoOne system?**

In a closed container such as a spray bottle, the concentration of hypochlorous acid decreases about 1% per day. For example, if you generate 200 ppm, it should maintain above 180 ppm after 2-4 weeks if stored at room temperature and protected from UV light.

### **Can I generate higher than 200 ppm?**

Yes, after generating 200 ppm, if you continue to run additional cycles on setting 3 (8 minute cycles), each additional cycle will raise the concentration approximately 80 ppm.

### **Can hypochlorous acid be sprayed using a fogging or misting device?**

Yes, but it is important that the device is a cold fogging device and not a thermal fogging device. Heating up hypochlorous acid will denature the molecule and can generate chlorine gas.

### **How can I test the disinfectant?**

#### **Measuring Concentration**

Because hypochlorous acid (HOCl) is a free chlorine molecule, you can measure the concentration with standard chlorine test paper in measurements of 10, 50, 100 and 200 parts per million (ppm).

Measuring pH - the pH is important because HOCl will be the dominant free chlorine molecule between pH 5 and 7. You can measure the pH with standard pH test paper.

Continued...



## AQUAREX EcoOne FAQ

At pH 5, over 99% of the free chlorine molecules will be HOCl. At pH 6, over 90% of the free chlorine molecules will be HOCl. At pH 7, over 80% of the free chlorine molecules will be HOCl. At pH 8, only 20% of the free chlorine molecules will be HOCl.

### **What kind of salt must I use to generate the disinfectant?**

Just pure and natural salt (without iodine if the disinfectant is used directly on food).

### **Why does the user manual recommend adding 1 tsp of vinegar?**

Adding vinegar is optional but recommended to lower the pH of the water.

### **What is the difference between the disinfectant made with salt and the degreaser made with potassium carbonate?**

The disinfectant made with salt is hypochlorous acid (HOCl), a powerful oxidizing agent. The degreaser made with potassium carbonate is potassium hydroxide (KOH), a powerful reducing agent.

### **Why is the EcoOne better quality than some other systems?**

It all depends on the quality of the electrolysis cell. AQUAREX EcoOne systems use high quality titanium electrolysis cells. Other competing systems may not be generating hypochlorous acid and the electrolysis cell may be built with lower quality alloys which cause the electrolysis cells to deteriorate quickly. Be cautious of cheaper systems that are using electrolysis cells made from steel. These electrolysis cells will deteriorate at a fast pace and will form harmful chromium compounds that can be carcinogenic.

### **Do I need to purchase any special capsules?**

No, we do not require users to purchase expensive capsules like some competing systems. All that is needed is salt for generating HOCl disinfectant or potassium carbonate for generating KOH degreaser.

Continued...

# AQUAREX EcoOne

## FAQ

**Can the salt and potassium carbonate be mixed to generate a combined disinfectant and degreaser?**

No, the disinfectant is a strong oxidant whereas the degreaser is a strong reducing agent. If the two additives are mixed, the system will not generate any useful solution.



# AQUAREX

We are strong in safe potable water, ECA water cleaning and on-line hygiene diagnostics, for the maritime industry.

Our products and services are based on cost-efficient, eco friendly and safe solutions.

- Safe Drinking Water Purification
- ECA Sanitizing & Cleaning
- ECA Laundering of textiles
- Real-time Bacteria Detection
- Air Quality Monitoring

We care about people and the planet... **Care. People. Planet.**



## We know what it takes

Our team has many years of experience in the maritime industry. We know what it takes to deliver a good reliable global service, to maritime professionals.



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