



 mitoredlight

## USER MANUAL

**MitoHYDRO™**

[www.mitoredlight.com](http://www.mitoredlight.com)

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# INTRODUCTION

Water with a hydrogen content exceeding 800ppb is referred to as hydrogen-rich water. Molecular hydrogen comprises the smallest molecules found in nature.

This molecular hydrogen is exceptionally permeable, swiftly absorbed by the human body via the respiratory tract, bloodstream, skin, and digestive system.

When the hydrogen water bottle is filled and operates for 5 minutes, the concentration of hydrogen molecules in the water can reach approximately 2000ppb. After 10 minutes of operation, this concentration can increase to about 5000ppb. Continuous operation may loosen the bottle lid when the bottle is full. Do not operate for the bottle for more than 10 continuous minutes as it may cause excessive pressure buildup.

To ensure safe handling, always follow the instructions provided in the manual. Do not attempt to perform repairs to the bottle yourself.

The MitoHYDRO was independently tested by H<sub>2</sub> Analytics, located in Henderson, Nevada and Certified to IHSA Standards. The bottle was tested in a Gas Chromatograph Instrument, This is the MOST accurate way to test hydrogen levels in water.



The third party testing validates that the advanced technology in the MitoHYDRO generates a concentration range of 2,000 to 5,000 parts per billion (ppb) in 3-10 minutes. The MitoHYDRO has also tested free of chlorine.

# INSTRUCTIONS

## **This package includes:**

- A – User manual
- B – MitoHYDRO bottle
- C – Charging cable

## **Quick start:**

- Remove your MitoHYDRO from the packaging box.
- Disassemble the bottle:
  - Twist the cap counter-clockwise to unlock and remove the bottle.
  - Twist the glass from the generator to detach it from the generator.
  - Remove the clear plastic cap that is covering the electrode plate.



- Hand wash bottle and cap.
- Remove clear protection film from the top of the bottle and the front of the bottle.
- Once your bottle is fully charged, fill your bottle with water to the top of the colored section near the threads. Then press the start button near the front bottom of the bottle. Press once for 5 minutes of hydrogen production, or twice for 10 minutes.
- Listen for the beep once the timer has ended then drink and enjoy!

# INSTRUCTIONS

## Charging

- Ensure the water bottle and all parts and cables are dry. Then connect the device to the power supply.
- Wait until the blue light illuminates on the USB magnetic suction head.
- Attach the USB magnetic suction head to the cup holder magnetic suction head.
- The display will indicate that charging has commenced.
- Once fully charged, the battery symbol will remain constant.
- At this point, disconnect the power source.



**WARNING:** Avoid excessive pressure buildup and lid seal issues by refraining from repeated hydrogen generation. If unintentionally repeated, allow sufficient time before attempting to open the bottle. If the lid remains stuck, contact customer service rather than attempting to handle it yourself.

## **NOT DISHWASHER SAFE:**

Handwash only - see next page for cleaning details.



# CLEANING

## Daily maintenance

- Not dishwasher safe – hand wash only
- Rinse thoroughly with warm water, especially around the membrane area.
- → After rinsing, add a small amount of clean distilled or filtered water (just enough to cover the membrane) to keep it moist.
- Optional step for extra mold prevention: Add 1 drop of lemon juice to that small amount of water every few days. The mild acidity can help suppress mold while still keeping the membrane hydrated.
- Leave the cap slightly loose or store the unit with ventilation holes open, if present. This allows minimal airflow while preserving moisture balance.

## Weekly Cleaning Routine

- Vinegar or Lemon Juice Flush (Weekly):
  - Mix 1 part distilled white vinegar or lemon juice to 3 parts water.
  - Pour just enough to cover the membrane.
  - Let sit for 30–60 minutes.
  - Swirl gently then pour out and rinse thoroughly with water.
- After rinsing, “reset” hydration by adding a few milliliters of clean distilled water to keep the membrane moist.
- Avoid letting vinegar or lemon juice sit in the bottle long-term. Flush completely before storing again.

## Washing the bottle

You can clean the outside of the hydrogen water bottle with a wet wipe, but avoid washing it with water. If the power connection part becomes wet, ensure it is thoroughly dried before charging again.

## Cleaning the air vent

Note: Prolonged use may cause a buildup of minerals in the air vent, leading to reduced air flow. It's important to clean it regularly. If mineral buildup is stubborn, dissolve 5 grams of citric acid powder in warm water and soak the bottle for 30–60 minutes. After Soaking, begin a 5 minute session. Once timer goes off, dump out the water and wash the bottle.

# MEMBRANE CARE GUIDE

## What is a PEM Membrane?

A PEM (Proton Exchange Membrane) is a semi-permeable film made from ionomer materials. In our hydrogen water bottles, we use the Dubon membrane, whose main component is a perfluorocarbon polymer modified with sulfonic acid groups ( $-\text{SO}_3\text{H}$ ). This material has high chemical stability and physical tolerance. Like other PEMs, it allows hydrogen ions ( $\text{H}^+$ ) to pass through while blocking gases, contaminants, and electrons.

## Why Moisture Matters

The PEM must remain constantly hydrated to function correctly. Moisture enables the movement of protons across the membrane. If the membrane dries out, its conductivity drops significantly, and repeated drying may cause irreversible damage or performance degradation.

## Safe Cleaning Methods – To keep the PEM clean without damaging it, follow these membrane-safe, natural cleaning instructions:

- Weekly Acid Flush: Use a solution of 1 part distilled white vinegar or lemon juice to 3 parts water. Add just enough to cover the membrane. Let sit for 30–60 minutes. Rinse thoroughly with distilled water afterward.
- Mild Soap (Non-Membrane Areas): You may use a soft, plant-based dish soap to clean the bottle walls (not the membrane). Rinse well.
- Moisture Maintenance: Always finish cleaning by adding a small amount of distilled water to rehydrate the membrane.

## What to Avoid

Avoid these substances and practices, as they may damage the PEM:

- Regular use of baking soda or any high-pH cleaner
- Regular or extended use of hydrogen peroxide – While Dubon membranes offer excellent chemical resistance, prolonged or repeated exposure to oxidizers like hydrogen peroxide can degrade sulfonic acid groups and reduce membrane performance.
- Bleach or harsh disinfectants
- Alcohols or oils
- Dry storage without hydration water on the membrane
- Scrubbing or scraping the membrane surface

# MEMBRANE CARE GUIDE

## If mold is suspected

In rare cases where mold is visible or suspected, a deep-cleaning protocol may be used (very rarely) to avoid long-term membrane stress:

Mold Emergency Cleaning Protocol (for rare visible mold cases only):

1. Gently scrub mold spots with a soft brush or cotton swab dipped in white vinegar or citric acid solution (mild acidity) to dissolve scale.
2. Apply a baking soda paste (1 tsp baking soda + a few drops of water) directly to the affected area.
3. Let sit for 5 minutes, then rinse thoroughly.
4. Flush with 3% hydrogen peroxide (just enough to cover the membrane).
5. Let sit for no more than 10 minutes.
6. Immediately rinse thoroughly with distilled water.

Important: This protocol is for very rare use only. Repeated use of baking soda or hydrogen peroxide can degrade the membrane and reduce performance. Prolonged or repeated use of oxidizers or high-pH substances can reduce membrane performance.

## Best Practices

- Use distilled or reverse-osmosis (RO) water to avoid scale buildup
- Refresh hydration water every 1–2 days to avoid stagnation
- Do not use or leave any sugary or flavored liquids in the bottle – WATER ONLY
- Inspect the membrane weekly for discoloration, odor, or slime
- Store in a cool, ventilated area with the lid slightly open
- Rinse and swirl after each use to dislodge early-stage biofilm and prevent buildup
- Do not tightly seal the bottle when storing—slight airflow discourages mold
- Avoid long-term storage with stagnant water; refresh moisture water if the unit is unused for more than 24–48 hours

# MEMBRANE CARE GUIDE

## Summary

Keeping the PEM membrane moist and clean is essential for optimal hydrogen generation. Use only mild, acidic, membrane-safe solutions and always rinse with distilled water. While Dubon membranes are chemically stable, avoid long-term exposure to baking soda, hydrogen peroxide, or harsh oxidizers to maintain peak performance. In rare cases of suspected mold, a one-time deep clean using baking soda and 3% hydrogen peroxide (with strict time limits) may be performed, followed by thorough rinsing

If mold is severe or persistent after cleaning, contact customer support at [info@mitoredlight.com](mailto:info@mitoredlight.com) for a chamber replacement (offer valid during 1 year warranty period)

## OTHER MAINTENANCE

- This device has no serviceable parts. The battery is not accessible and not serviceable. Users should not attempt to access or service the battery as this will damage the device and void the warranty.
- Device includes only an ON/OFF button. All settings are set to the factory setting.
- Charge the device only with the supplied USB-C power charging cord and a universal USB-C power adapter (not included).
- The battery capacity grid will begin to flash when battery levels are low. This indicates the device should be recharged.
- The lifetime of the Lithium Ion Battery can be maximized by allowing it to fully charge and then fully discharge during regular use.

# PRECAUTIONS

- Before initial use, fill the hydrogen water bottle with pure water and connect it to the power supply to charge the generator. Once fully charged, switch on the hydrogen production.
- Use ONLY clean water. The water source quality must be "Drinking Water Hygienic Standard". Optimal choices include bottled mineral water, pure water from household purifiers, or cold boiled water. DO NOT use fruit juices or other chemical solutions to maintain hydrogen production efficiency and prevent damage to the bottle.
- Ensure the water temperature during operation remains below 60°C.
- Hydrogen dissipates quickly in water, so it's advisable to consume the produced water immediately.
- If white crystalline particles accumulate in the water after prolonged use, soak the bottle in warm white vinegar or citric acid solution (heated to around 40°C) for 60 minutes. Then, rinse the bottle thoroughly with clean water.
- Store the hydrogen water bottle with a small amount of water in the generator in a cool place when not in use. Before using it again, empty the water from the generator and clean it.
- Keep the magnetic suction head clean, preferably by wiping it with alcohol.
- In case of malfunction, refrain from disassembling the hydrogen water bottle on your own. Instead, seek professional assistance.

# SPECIFICATIONS AND DISPOSAL

Name	Hydrogen water bottle
Model	MitoHYDRO Water bottle
Capacity	230ml
Net weight	368g
Size	60mm*190mm
Electrode material	Platinum titanium alloy
Membrane	Proton exchange membrane
Main unit material	Food grade PC
Working time	5 minutes/10minutes
Battery type	Lithium polymer battery
Battery capacity	3.7V/1500mAh
Charging input	5V 1A

## Disposal

Before disposing of the appliance, remove the battery from the device by following these steps: tear off the bottom pad, unscrew the bottom cover plate, and carefully extract the battery, ensuring to avoid short-circuiting the positive and negative poles.

Ensure the appliance is powered off before removing the battery, and dispose of it safely.

# CAUTIONS & DISCLAIMER

## Disclaimer

The statements in this manual have not been evaluated by the Food and Drug Administration (FDA). The information provided is not intended to diagnose, treat, cure, or prevent any disease and should not be construed as medical advice. Our products are low-risk, general wellness / fitness products that do not require FDA clearance, in accordance with the "General Wellness: Policy on Low Risk Devices" draft released January 20, 2015.

Mito Red Light makes no claims or representations or otherwise warranties regarding the ability of this product to cure any physical or mental conditions. A qualified health professional should always be consulted prior to using this product in regards to any condition that may requires medical attention.

## WARRANTY

Under normal use this product is guaranteed for 1 year after its original purchase date against manufacturing defects in materials or workmanship. This warranty extends only to the original purchaser. If the product should become faulty within the warranty period, contact Mito Red Light. Mito Red Light reserves the right to repair a defective product. Mito Red Light reserves the right to replace a defective product with the most compatible product currently available.

This warranty does not cover damage caused by the following:

- Accident, misuse, abuse or alteration
- Servicing by unauthorized persons
- Connection to incorrect power sources
- Use with unauthorized accessories

Mito Red Light shall not be responsible for any incidental, special or consequential damages resulting from the use of this product.

# ABOUT

Located in Scottsdale, Arizona, Mito Red Light LLC is dedicated to bringing the highest powered, highest quality red light therapy lights to market at the best possible value.

Having extensively studied and realized the benefits of red light therapy firsthand, Mito Red Light was brought into existence in order to provide consumers truly affordable, yet highly effective red light therapy options.

If you have any further questions, please feel free to contact us at:  
[info@mitoredlight.com](mailto:info@mitoredlight.com)

You can also call our phone number

Monday - Friday 9am - 5pm MST  
1 (866) 861- MITO

Mail correspondence can be sent to:

Mito Red Light, LLC  
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Scottsdale, AZ 85258





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**User Manual and Instructional Videos**

This user manual and instructional videos can be found here:

<https://mitoredlight.com/pages/user-manual>

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