
Information You NEED to Know About Your Aquarium Water
- Take the test, what do your results mean?
- General aquarium maintenance schedule
- How to combat any issues you have

FIRST OF ALL, **thank you so much for choosing our aquarium test strips**. We hope you get the results you were looking for and that this product and ebook gives you peace of mind about your aquarium water!

As with many businesses, product reviews are very important for us in spreading the word about us and our products. If you have a minute we would love it if you could **please leave us a review on Amazon**. Thank you so much in advance for your support! – If you have any other questions or concerns, you can contact us at support@jnwdirect.com.

****The information provided in this e book was compiled from various sources on the internet. The sources will be listed at the end if you want to do further reading. This was made to be a general guide about basic water chemistry. We did not perform any studies, and we highly advise you do more research into more advanced water chemistry before taking any drastic action.

This e-book will contain information about every aspect of the 9 tests, from what healthy levels should be, the issues that come with unhealthy levels and how to combat these issues to make your water healthier for your fish. We hope you enjoy this information.

CONTENTS:

How to use the test strips and important notes:

Test Water:

Dip a strip into water for 2 seconds and then remove for best results.

Carefully shake off any excess fluid.

Compare against the color chart on the bottle after 30 seconds (boxed colors = ideal range). Then take any necessary action to your water supply.

Results:

See next page for table.

Best practices:

Follow care instructions below to make sure these last. Follow instructions step by step. Read after 30 seconds. Do not leave for longer periods as the reagents turn a different color when drying (30 seconds is ideal).

Test strips are very sensitive so please store them properly to ensure their long term accuracy by:

- Never removing the desiccant packet
- Keeping the strips away from light and moisture
- Keeping the cap on tight between each use
- Storing well sealed in a cool dry place (especially not in bathroom or by water source)

If you believe the test strips to be defective or they have all turned one color please contact us and we will help you fix the problem.

Correct Levels (according to various sources online that are listed at the end)

Test	Marine Reef Aquarium (ppm)	Marine Coral Reef Aquarium (ppm)	Freshwater / Pond (ppm)
Carbonate / KH	80 to 140	80 to 140	80 to 140
Total Alkalinity	120 to 215	120 to 215	120 to 215
pH	8.1 to 8.4	8.0 - 8.5	6.5 to 7.5
General Hardness / GH	200 to 400	200 to 400	100 to 200
Free Chlorine	0	0	0
Nitrate	0 to 25	0 to 25	0 to 25
Nitrite	0 to 0.5	0 to 0.5	0 to 0.5
Iron	...	...	
Copper	...	...	

Carbonate / KH:

Overall meaning – KH is carbonate hardness or a measure of bicarbonate and carbonate. It helps keep the pH in your aquarium stable. The less KH, the more fluctuation pH can do.

Dangers in water – Low levels of KH will mean that your aquarium water's pH will fluctuate. Most fish species do not enjoy carbonate hardness and it will cause unnecessary stress for the fish.

Correct levels - see table at top of eBook for specific correct values

How to fix and maintain – KH can be raised by using a small amount of sodium bicarbonate.

General Hardness:

Overall meaning – General hardness is the amount of dissolved minerals in the water. Hard water is full of dissolved minerals and soft water is not.

Dangers in water – Fish species do not tolerate extreme soft or hard general hardness values. Some fish will get sick and may even die with extreme levels.

Correct levels – see table at top of eBook for specific correct values

How to fix and maintain – General hardness can be raised by adding limestone chips to a filter bag which will steadily emit dissolved solids. Small bags of coral can also be used. To lower the GH you can use small bags of peat or wood which at the same time will bring down the pH of the water.

Degrees	PPM (Parts per Miillion)	Softness/Hardness
0 – 4 (dH)	0 - 70 mg/l	Very soft
4 – 8 (dH)	70 - 140 mg/l	Soft
8 – 12 (dH)	140 - 210 mg/l	Medium
12 – 18 (dH)	210 - 320 mg/l	Medium-Hard
18 – 30 (dH)	320 - 530 mg/l	Hard

30+ (dH)	530 + mg/l	Very Hard

pH:

Overall meaning – Overall meaning: pH is the scale of whether the water is acidic (1-6), neutral (7) or alkaline (8-14).

Dangers in water – Sudden changes in pH in your fish tank can cause great harm to your fish. A high pH will increase the toxicity of chemicals in your aquarium such as ammonia.

Correct levels – see table at top of eBook for specific correct values

How to fix and maintain – If your pH is close to ideal level and your fish do not show any signs of distress it is recommended to not alter it. Changes of even 0.3 in pH in a day can be harmful. If a trend is occurring however (steady rise or fall in levels) then you need to address the problem. To raise pH, the most effective method to raise it back up to the level of your tap water is to simply perform regular water changes. Adding some rocks or substrate should also raise ph to desired level (but always watch out for spikes). To lower the ph, you can add more carbon dioxide to the water or you could add wood to the tank such as decorative driftwood.

Total Alkalinity:

Overall meaning: The total alkalinity is a measure of how much alkaline substances there are in the water. It is a measure of the capacity of water to neutralize acids. Alkalinity, like carbonate will help keep the water's pH stabilized.

Dangers in water: If you do not have sufficient levels of total alkalinity buffer in your aquarium, your water will have a high tendency for big fluctuations for pH of the water which is dangerous for your fish.

Correct levels: see table at top of eBook for specific correct values

How to fix and maintain any issues: To raise pH, the most effective method to raise it back up to the level of your tap water is to simply perform regular

water changes. If your tap water isn't ideal, you can dissolve 1 teaspoon of baking soda in a glass of water for each 10 gallons of the tank.

Free Chlorine:

Overall meaning: Chlorine is a chemical element that is often used in water to kill bacteria. It is represented by the symbol Cl. In aquariums, free chlorine should not be present as it is very harmful to fish.

Correct levels: see table at top of eBook for specific correct values

Dangers in water: One of the dangers of water being too alkaline is that it affects your body's natural pH level. According to some, if you disturb your pH level, our body's cells will not be able to perform their normal chemical reactions as they require a certain amount of acidity and alkaline balance. Alkaline water is also not good for people with kidney issues as it is essentially the kidneys job to maintain pH levels so they will be working very hard unnecessarily and will eventually lead to problems. If your drinking water is alkaline you also make your stomach acid less acidic which can lead to vitamin absorption problems.

How to fix and maintain any issues: To lower the level of chlorine you need to increase aeration. Especially when you first get water from the tap. If you suspect you have a problem, increasing aeration in the aquarium which will help the affected fish' chances of recovery.

Nitrite:

Overall meaning – Nitrite follows along with ammonia as a major killer of aquarium fish. Nitrites follow in the nitrogen cycle after ammonia so if your fish were killed by ammonia the nitrite level will spike soon after killing potentially more of your aquatic life.

Dangers in water – As we said in the first section, nitrite is a major killer in fish. They will show signs of distress with any amount of nitrites. They will show symptoms such as gasping for breath, lifeless behaviour, tan or brown gills and rapid gill movement. Nitrites course fish blood to turn brown because it can no longer carry oxygen.

Correct levels – see table at top of eBook for specific correct values

How to fix and maintain – To treat nitrites in the water, you can perform a large water change, reduce feeding and increase aeration. Nitrite is lethal at much lower levels than ammonia so it is critical to continue daily testing and treatment until you have 0 nitrites present.

Nitrate:

Overall meaning – Nitrate is a by-product of nitrite during the latter stages of the nitrogen cycle and will always be somewhat present in aquariums due to it being a product of a natural cycle. Waste, decaying plants, dirty filters, overfeeding and overstocking the tank all contribute to the overproduction of nitrate.

Dangers in water – Although nitrates are not directly lethal in the way ammonia or nitrites are, high levels of nitrate can have a negative effect on your whole aquarium environment over time. Fish will really start to feel the effect at 50 ppm. It will highly distress your aquatic life and make them less likely to breed and more susceptible to disease. High levels will especially harm fry and young fish and affect their growth and can also affect oxygen levels in the tank. Nitrate levels as low as 10 ppm will encourage algae growth.

Correct levels – see table at top of eBook for specific correct values

How to fix and maintain – Conventional (non specialised) filters do not have the ability to remove nitrates. To reduce nitrate, you can keep the tank clean free of all waste and other items listed above. A clean tank is less likely to overproduce nitrates. Keeping live plants will also help to maintain low levels of nitrates.

Iron:

Overall meaning – Iron is a chemical element represented by the symbol Fe. It is a dietary requirement but very high levels in water can bring problems, especially in aquarium water.

Dangers in water – At normal levels, iron is not deadly to any aquatic animals, but at higher levels, fish cannot process the iron they take in. The iron can build up in fish' internal organs, eventually killing them.

Correct levels – 0 ppm

How to fix and maintain – If you have iron in your aquarium water you can add a chemical called Potassium Permanganate to the water which will remove the iron.

Copper:

Overall meaning – Copper is also a chemical element, represented by the symbol Cu. It is a widely used metal in the modern world.

Dangers in water – In aquarium water, copper can reduce the oxygen in the water leading to fish distress and deaths. Some copper is alright in water, as it contributes to reducing algae. Please note that the toxicity of copper to fish increases as the total alkalinity decreases. If the total alkalinity is less than 50 ppm, copper treatments are not recommended because of the high risk of killing fish.

Correct levels – 0 to 0.5 ppm

How to fix and maintain - If you have more than 0.5 ppm of copper in your aquarium water, you can peform a 25% water change with water that has been let to run on cold for 2-3 minutes when supply hasn't been used for more than 6 hours as you will essentially flush most of the copper contaminated water. You can also use an activated carbon block in the tank filter to deal with excess copper.

Aquarium maintenance schedule:

Keeping your fish tank / aquarium clean and free of harmful chemicals Is very important for the health of your aquatic life. It is important to test and maintain the water regularly and below we give you a rough guide of the steps you should take to achieve this.

Make sure your water is at the correct levels. Use our test strip kit to determine this and take the necessary action (steps listed above) to balance the water chemistry.

When your tank is completely clean, no fish are distressed and the tests are all showing in the correct ranges then you should maintain the tank. You should also test straight away and continue to monitor daily when setting up a new tank, when adding new fish to an established tank, when the filter fails, when a fish dies or gets ill, when you suspect a problem and when medicating sick fish.

It is advised to perform a partial water change at least once a fortnight and to test your water twice a week (luckily for you our strips make this easy to do!). You need to pay special attention to the ph, free chlorine, nitrites and nitrates as these are the biggest danger to fish. Try to test at the same time on a schedule as the ph level varies based on time of day.

Clean the tank weekly taking care to remove all debris and decayed plants. Always feed your fish sparingly & remove uneaten food, remove dead plants and waste and always keep an eye on the distress symptoms of the fish.

Be careful when treating the tank as any big changes have the chance of killing your fish and seek expert advice when you can.

Sources:

*We compiled this information as an overview of some of the meanings, dangers and solutions for the tests to help you know more about your water. We gathered the info from various sources from the internet which we will link down below. If you want to know more, please do more research.

Thank you so much for reading, we hope you found this information helpful and if you would like to contact us for any reason regarding this e book or the test strips we provided, please email us: support@jnwdirect.com.

Links:

aquariuminfo.org/water.html

ratemyfishtank.com/blog/properly-maintaining-the-ph-inafreshwater-aquarium

sciencing.com/raise-alkalinity-freshwater-aquarium-8214550.html

theaquariumwiki.com/how_to_make_tap_water_safe_for_fish

thespruce.com/nitrates-in-the-aquarium-1381883

thespruce.com/nitrite-poisoning-1378485

cuteness.com/article/effects-iron-water-aquatic-life

If you would like the large color chart associated with your test kit please contact me (Nathan) at support@jnwdirect.com, tell me the product you bought and I will attach the correct large color chart for printing. If you have any other questions please just send me an email.

EXTRA BONUSES:

10% OFF YOUR NEXT PURCHASE OF ANY OF OUR TEST STRIP KITS:

As an extra thank you, we are offering you a 10% coupon code to use for your next purchase of any of our highly rated and already well priced test strips.

Please use code: **GET10JNW** at checkout on Amazon.com.

BUY 2 OR MORE, GET 10% OFF:

We are currently running a promotion where you can buy 2 of any of our strip kits below and automatically get 10% off applied to checkout!

PRODUCT VIP CLUB:

You are now already a member of our VIP program, where you will receive amazing coupon discount codes at our product launches and promotions (up to 70% off!). We will email you when we have a promotion worth sharing.

FIND US ON…

JNW Direct

www.jnwdirect.com

JNW Direct

JNW Direct

YouTube

JNW Direct