



Water Quality -

The pH of water is the measure of the degree of acidity in water. In most aquariums the pH starts out alkaline and normally over time, drops down to acidic levels. These acidic levels are usually caused by waste products produced by fish in the aquarium such as Nitrates. Plants and algae absorb nitrates in the wild, but in the aquarium they accumulate and start converting into Nitric Acid. Sufficient and regular water changes can dilute the Nitrate in the aquarium and therefore keep the pH from diving too low. Adding "pH Up" powder (sodium bicarbonate) to the aquarium can help to maintain a higher pH in between water changes.

In situations where the pH is constantly dropping to acidic levels, it may be necessary to 'buffer' the water with other stronger compounds. Buffering is done by what is called 'Hardening' the water. 'Hard' water contains Carbonate and Sulphate Salts. Many people call this 'Hardness', 'Carbonate Hardness' or just 'KH'. These compounds help pH by slowing down the acid drift and helping to maintain a more alkaline pH. Shells and limestone contain Calcium Carbonate, which slowly dissolves into the water and causes it to become hard and alkaline. Only a few varieties of fish are happy to live in very hard, alkaline environments. Hence for this reason it is not recommended, for normal community aquariums, to introduce large quantities of shells or limestone.

There is more to test in your aquarium than just pH. In order to get a full picture of what is happening in your fish tank, tests such as Ammonia, Nitrite, Nitrate, Hardness, Iron, Phosphate etc. should be carried out if you have any problems with your fish or plants. If any particular tests show up any water quality problems, a 'solution' should not be sought before the 'cause' of the problem is established. All too often products such as KH buffers are sold to people with low pH problems, before a Nitrate test is done. If the Nitrates are high, as mentioned above, then this is the cause of the low pH. First a substantial amount of water should be changed before any more chemicals are administered. KH buffers should be used where pH drift occurs regularly between water changes due to a heavily stocked aquarium, or in cases where Carbon Dioxide is injected into the aquarium for extra plant growth. To understand more about the other tests, ask us for info sheets on "**Filtration**" and "**Plant Requirements**".

The most important water quality to consider is where we get most of our water from, tap water. Seasonal variations occur with our water quality and source, so the amounts of various chemicals added to our tap water are varied to compensate with the seasons. Some species of fish are highly resilient to small levels of chemicals in our tap water, other fish however are not forgiving at all. It cannot be stressed enough that a high quality 'water conditioner' or 'water purifier' is a must when dealing with most fish. When many people say their fish look sick, it is often the quality of the water, and quite regularly the cocktail of chemicals that the fish are soaked in for days. Before reaching for 'multi-cure' antibiotics, try making the environment that the fish are living in, more suitable for all fish. Happy fish rarely get sick, so the cause of most sicknesses could be due to the poor water quality and not any disease.

Overall, it is in your best interest and that of the fish in your care, to have your water tested for more than just pH, and use a good quality water conditioner. If you notice that something is not quite right, then do what is necessary to eliminate any causes before trying to cover up the symptoms. If you are unsure about any of the above information or you wish to learn more about water quality or any other aspect of fish keeping, please feel free to contact any of the experienced AQUOTIX staff for help.