
Tetra
Caring for your tropical aquarium
Approved by
SPARSHOLT
COLLEGE HAMPSHIRE

Caring for your tropical aquarium

A healthy aquarium makes a great focal point for any room and provides a constant source of interest for the whole family. It's easy to keep it this way too, by following the advice in this brochure, and by using **Tetra's** innovative range of care products.

With **Tetra´s** range of high quality and simple-to-use products, it has never been easier to care for tropical fish and keep the aquarium looking good. For more than 55 years **Tetra** has been the global leader for aquarium products, committed to making aquarium ownership easy and enjoyable through continual innovation and unrivalled customer support. Every **Tetra** product has been subject to rigorous testing by our independently accredited Research and Development laboratories to ensure they keep your fish in top condition.

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Fish care

Provided your aquarium is well cared for, the fish will generally remain healthy and happy. Fish normally only get sick when there is a problem with the water, which is easily avoidable by following the advice in this and other Tetra brochures. Therefore, the most important part of caring for your fish is ensuring they receive a good quality diet.

Different fish have different nutritional needs, and so it's important to ask about these when you buy them. Read our '**Feeding your Tropical Fish**' brochure to find out which foods are best for your fish.

Here are some top tips for giving your fish a healthy diet:

- Always choose a good quality **Tetra** food, as this keeps the fish healthier, and makes looking after the aquarium easier
- Feed 2-3 times a day, only as much as the fish can eat within a few minutes. The only exception is when feeding wafers or tablets to substrate-feeding fish.
- Offer the right mix of floating and sinking foods to suit the fish in your aquarium. Ask your aquatics outlet, or read our '**Feeding your Tropical Fish**' brochure, for more advice.
- Vary your fishes' diet with treat foods such as **Tetra FreshDelica.**

The basis of your fishes' diet should be a quality floating food such as **TetraMin**, with sinking foods (e.g. **TetraPrima)** and tablet / wafer foods (e.g. **Tetra TabiMin**) used as needed.

Why feed Tetra?

- Clearer, cleaner water, due to less waste production
- Healthy colourful fish, due to superior nutrition and patented **ActiveFormula**
- Unrivalled research and testing at our independently accredited ornamental fish nutrition laboratory
- Over 55 years of research and development, and the world's best selling tropical fish foods

Water care

Clear, healthy water makes the whole aquarium look stunning, and it is essential for keeping the fish in good condition.

Refreshing aquarium water

Over time, the appearance and composition of aquarium water changes due to various natural processes. If left unchecked, this can lead to poor water quality, dirty water, and sick fish. Refreshing aquarium water is therefore an important part of keeping it healthy and maintaining its appearance. There are two approaches to refreshing aquarium water:

OPTION 1

Regular water changes

The traditional approach to refreshing aquarium water is with partial water changes. These should be carried out every 2-3 weeks, and involve removing approximately 25% of the water, and replacing it with tap water that has been treated with **Tetra AquaSafe**.

It is essential to use a water conditioner when adding fresh water to the aquarium. Tap water contains chlorines and heavy metals, which are toxic to fish. **Tetra AquaSafe** removes these toxins, making water safe for fish. It also adds essential vitamins and maintains the fish's ability to cope with stress and physical damage.

Carrying out a water change

1. Begin by preparing the replacement water. Fill a plastic bucket with tap water, and treat it with **Tetra AquaSafe.** Leave it for an hour to settle.

2. Once the new water has settled, turn the lights & all other electrical equipment off in the aquarium & remove / open the lid. Drain 25% of the water out into a plastic bucket. The easiest way to do this is with a gravel vacuum, such as the **TetraTec GC.** This allows you to clean the substrate at the same time. Alternatively, use a piece of plastic pipe, or remove the water manually with a jug.

Important – Do not allow the heater to be exposed to air. If this is unavoidable, switch it off at least half an hour before draining the water down.

3. Once the aquarium has been drained down, bring the replacement water up to the same temperature as the aquarium with small amounts of boiled water (not water from the hot tap).

4. Top the aquarium up with the new water. Do this with a jug and pour it gently to avoid disturbing the aquarium.

5. Once full, close the lid and turn any electrical equipment back on. Leave the lights off for the rest of the day, to allow the fish to settle.

OPTION 2

Tetra EasyBalance

EasyBalance offers a simpler alternative to regular water changes, and is therefore ideal if you don't always have time to do them.
It replicates the refreshing action of a water change, keeping aquarium water balanced for up to 6 months.

To keep the aquarium healthy, add **EasyBalance** once a week, & carry out a partial water change once every 3-6 months.

If you want to carry out more frequent water changes, that's fine – **EasyBalance** provides a stable, permanently healthy environment whatever your preferred care regime.

When using **EasyBalance**, there will still be times when you may need to add tap water to the aquarium (e.g. to top up evaporation losses, or following substrate cleaning). Always use **Tetra AquaSafe** to make this water safe for your fish.

What EasyBalance does

- Replenishes bicarbonates, thereby stabilising pH (acidity).
- Replenishes all trace elements needed by fish, plants and filter bacteria.
- Actively reduces nitrate and phosphate, for healthier water and less algae.
- Adds small amounts of carbon dioxide, which aids the growth of live plants.

Substrate and glass care

Over time, a certain amount of debris will settle in the substrate. This should be removed from time to time, to prevent it polluting the water. The easiest way to do this is with a **TetraTec GC** gravel vacuum. The vacuum sucks up debris, leaving the substrate in place. Because it works by siphoning water from the aquarium, it can be used to perform a water change as well. Substrate should be cleaned as and when it becomes dirty – begin by cleaning it once every 4 to 6 weeks, and adjust accordingly.

If the glass develops a covering of algae (green patches), this can easily and quickly be removed with a **TetraTec GS glass scraper.**

Helping you enjoy your aquarium more

The need to remove debris and algae, whilst relatively easy, can be reduced through the use of the right **Tetra** products. For example:

- Using **TetraMin Crisps** or **TetraPro Crisps** as your fishes' main food will reduce both solid and dissolved waste. This cuts down on debris accumulation and helps to limit algae growth.
- **Tetra EasyBalance** actively reduces nitrate and phosphate, which encourage algae to grow.
- **TetraTec** filters are designed to effectively remove and retain debris, reducing the amount that settles on the substrate.

Equipment care

The equipment in your aquarium is its life-support system. Keeping it running properly is essential to the quality and clarity of the water, and the health of the fish.

Filter

Your filter performs two main functions – the physical removal of debris, and the biological breakdown of dissolved waste by filter bacteria. If the filter becomes too clogged with debris, the biological part will not work, and the flow rate will decrease.

Your filter should be cleaned roughly every 2-3 weeks, although it depends on the design and also the amount of debris it is trapping. For example, a larger external filter, such as the **TetraTec EX**, will need cleaning less frequently than an internal filter.

You should certainly clean the filter if the flow rate begins to fall significantly.

Cleaning your filter

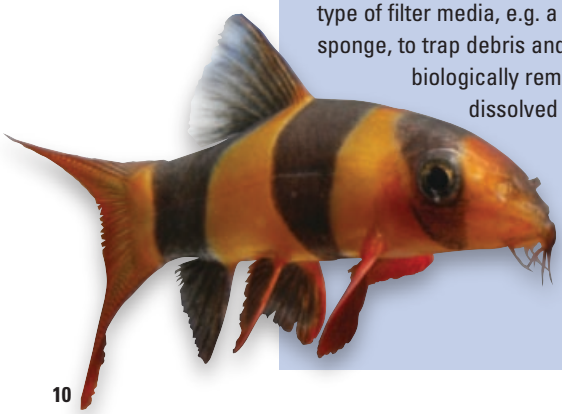
For the best results, always follow the cleaning instructions that came with your filter. Some key things to consider are:

- Always switch the filter off at the mains before any maintenance.
- Do not keep the filter turned off for longer than is necessary – this will result in the loss of important bacteria.
- Many filters use a single type of filter media, e.g. a sponge, to trap debris and biologically remove dissolved waste.

To protect the bacteria, this media must be washed in aquarium water.

Tap water will kill the bacteria, quickly leading to water pollution.

- Some filters have separate media for debris removal (mechanical media) and the breakdown of dissolved waste (biological media). In such cases the mechanical filter media can be washed under the tap, whilst the biological media is cleaned in aquarium water.
- Occasionally it is worth checking the impeller and other moving parts, and removing any debris or limescale. This will extend the life of the filter, and keep it flowing correctly.



Following filter maintenance, add **Tetra SafeStart** to the aquarium. This replaces any bacteria lost during the cleaning process, thereby preventing any pollution of the water.

Spare filter media and parts are available from your aquatics outlet. Some filter media needs changing regularly, e.g. activated carbon and filter floss. Check the instructions for details on your filter.

Heater

The heater should not need regular cleaning, and is best left alone. The only time to clean it is if it develops a covering of limescale. You will need to switch the heater off and allow it to cool for at least 30 minutes before removing it from the aquarium. Clean it very carefully, as any damage could result in its malfunction.

Air pump

Air pumps do not need regular maintenance. If the flow of air decreases over time, replace the airstone first. If this does not work, replace the felt pad that filters air entering the pump, or install a spares kit (available from your aquatics outlet).

Light

Light tubes cannot easily be cleaned, however they should be replaced once a year on average. This is because the quality of light they emit deteriorates over time, and may not be sufficient for good plant growth.

Plant care

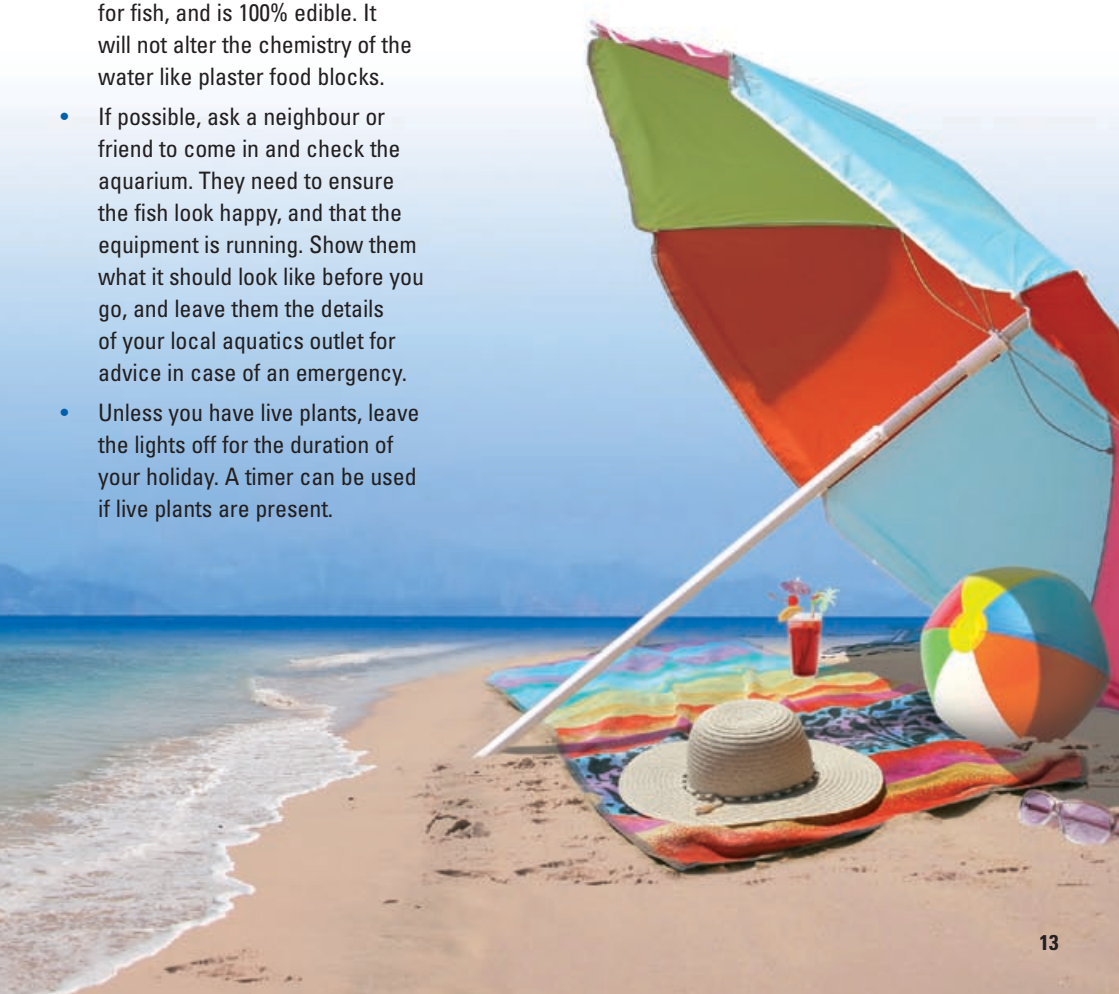
For more information on live plants and their care, read our '**Planting your Aquarium**' brochure. Many live plants can be kept healthy with a minimum of care:

- Keep them tidy by trimming excess growth. 'Stem' plants (those with an obvious stem) should be cut back as required. If the base of the plant is sparse with few leaves, you can remove the top 20cm (8in) and replant it. Rosette plants do not have obvious stems, and to thin them out you can remove their outer leaves.
- Feed them by adding **TetraPlant PlantaMin** to the aquarium water and **TetraPlant Crypto** to the substrate. These replace essential nutrients and trace elements lost over time.
- Ensure the light is on for 10-12 hours a day, and that it emits the right spectrum of light. **Tetra AquaArt** aquariums contain lights designed to promote the growth of live plants. Your aquatics outlet can advise you further.

Holidays

To ensure your aquarium remains healthy while you are away, it is important to do the following:

- Perform a partial water change, including cleaning the substrate and filter, a few days before your holiday starts. Do not do it the day before, as you want to make sure everything is settled.
- Just before you go, put **TetraMin Holiday** into the aquarium. This provides up to 14 days nutrition for fish, and is 100% edible. It will not alter the chemistry of the water like plaster food blocks.
- If possible, ask a neighbour or friend to come in and check the aquarium. They need to ensure the fish look happy, and that the equipment is running. Show them what it should look like before you go, and leave them the details of your local aquatics outlet for advice in case of an emergency.
- Unless you have live plants, leave the lights off for the duration of your holiday. A timer can be used if live plants are present.



Water quality and testing

One of the keys to a healthy aquarium is good water quality. If you follow the care advice already presented in this and other Tetra brochures, the water quality in your aquarium should remain good, and you will have few problems. It is useful though to have an awareness of the most important water quality parameters, and how to test for them.

Ammonia ($NH_3/_4^+$)

Ammonia is a waste product excreted by fish into the water. It is very toxic, with even moderate levels causing stress and ill-health. In the wild, ammonia is diluted by large volumes of water, and various natural processes remove what is left. However, in an aquarium levels can accumulate rapidly.

Fortunately, naturally occurring bacteria remove ammonia, turning it into nitrite, and then into harmless nitrate. These bacteria require a high surface area to grow on, with a rich supply of nutrients and oxygen. This is the job of the filter, which contains biological media designed to provide a home for them. An aquarium with a properly functioning filter (see our **'Aquarium Equipment'** brochure) should therefore have virtually no ammonia in it.

Nitrite (NO_2^-)

Ammonia is converted into nitrite by nitrifying bacteria, before it is then turned into nitrate. Nitrite is also toxic to fish, and therefore needs to be kept under control. As with ammonia, an aquarium with a properly functioning filter should have virtually no nitrite.

Common causes of high ammonia or nitrite

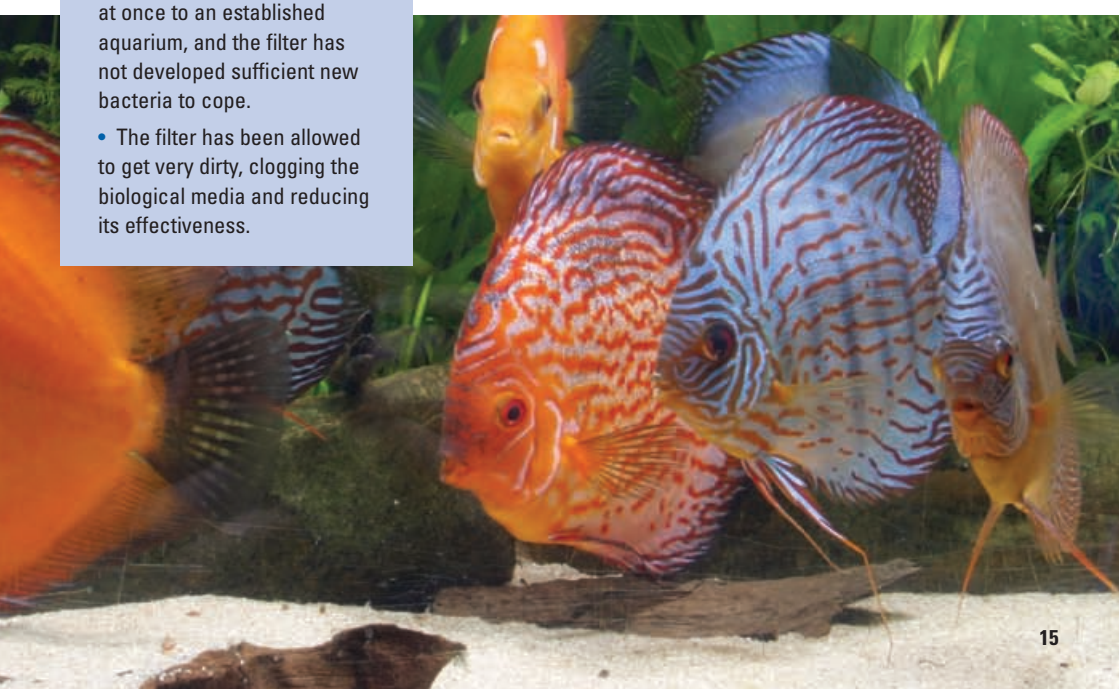
A high ammonia or nitrite level indicates that the filter is not able to cope with the amount of waste that the fish are producing. Common causes include:

- The aquarium is new, and too many fish have been added at once, leading to New Tank Syndrome (see our '**Setting up your Tropical Aquarium**' brochure for more information).
- The biological filter media has been washed in tap water, killing its population of bacteria.
- The filter has been switched off for more than a few hours, leading to a loss of filter bacteria.
- A lot of fish have been added at once to an established aquarium, and the filter has not developed sufficient new bacteria to cope.
- The filter has been allowed to get very dirty, clogging the biological media and reducing its effectiveness.

Dealing with high ammonia or nitrite

If you have a high ammonia or nitrite level, it needs to be dealt with to avoid harming the fish.

- Perform one or more partial water changes, using **Tetra AquaSafe** to make the tap water safe, to dilute levels rapidly. This is important if levels are very high.
- Add **Tetra SafeStart** to the aquarium, to replenish the filter bacteria.
- Reduce feeding to once every day or two, until levels come back down.
- Ensure the filter is on all of the time, and is reasonably clean (wash biological media in aquarium water).
- Do not add any more fish until ammonia and nitrite are back to zero, and the filter is coping.



Nitrate (NO_3^-) & Phosphate (PO_4^{3-})

Nitrate is the end product of biological filtration, and is relatively harmless to fish. Phosphate is excreted directly by fish and leached from solid waste, and is also harmless. However, both nitrate and phosphate encourage algae to grow, and are signs of a dirty aquarium.

Nitrate and phosphate can be controlled in the same way:

- Feed a good quality food, such as **TetraMin**, to reduce waste production.
- Keep the substrate and filter free from excess debris.
- Use **Tetra EasyBalance** to actively control phosphate and nitrate.
- Consider using live plants to soak up nitrate and phosphate.
- Use **Tetra NitrateMinus** for additional long-term nitrate reduction.
- Check the tap water for levels of nitrate and phosphate (you can test it yourself, or request a water quality report from your local supplier). If high, reduce water changes and switch to **Tetra EasyBalance.**

pH

The pH of aquarium water is a measure of its acidity. Most common aquarium fish can tolerate a wide range of pH levels, provided it doesn't change too quickly, with an ideal somewhere between 6.5 and 8.5. The lower the pH, the more acidic the water is.

Very low pH levels can occur if the buffering capacity of the water is allowed to deplete. This basically refers to its ability to resist pH changes, and it depends on the presence of bicarbonates (e.g. calcium bicarbonate) in the water. Over time, bicarbonates are used up by natural processes, leading to a gradual reduction in buffering capacity. Eventually this can lead to a fall in pH to below the recommended minimum. Water supplies that are very 'soft', i.e. mineral-poor, have a lower level of bicarbonates, and are therefore more prone to low pH levels.

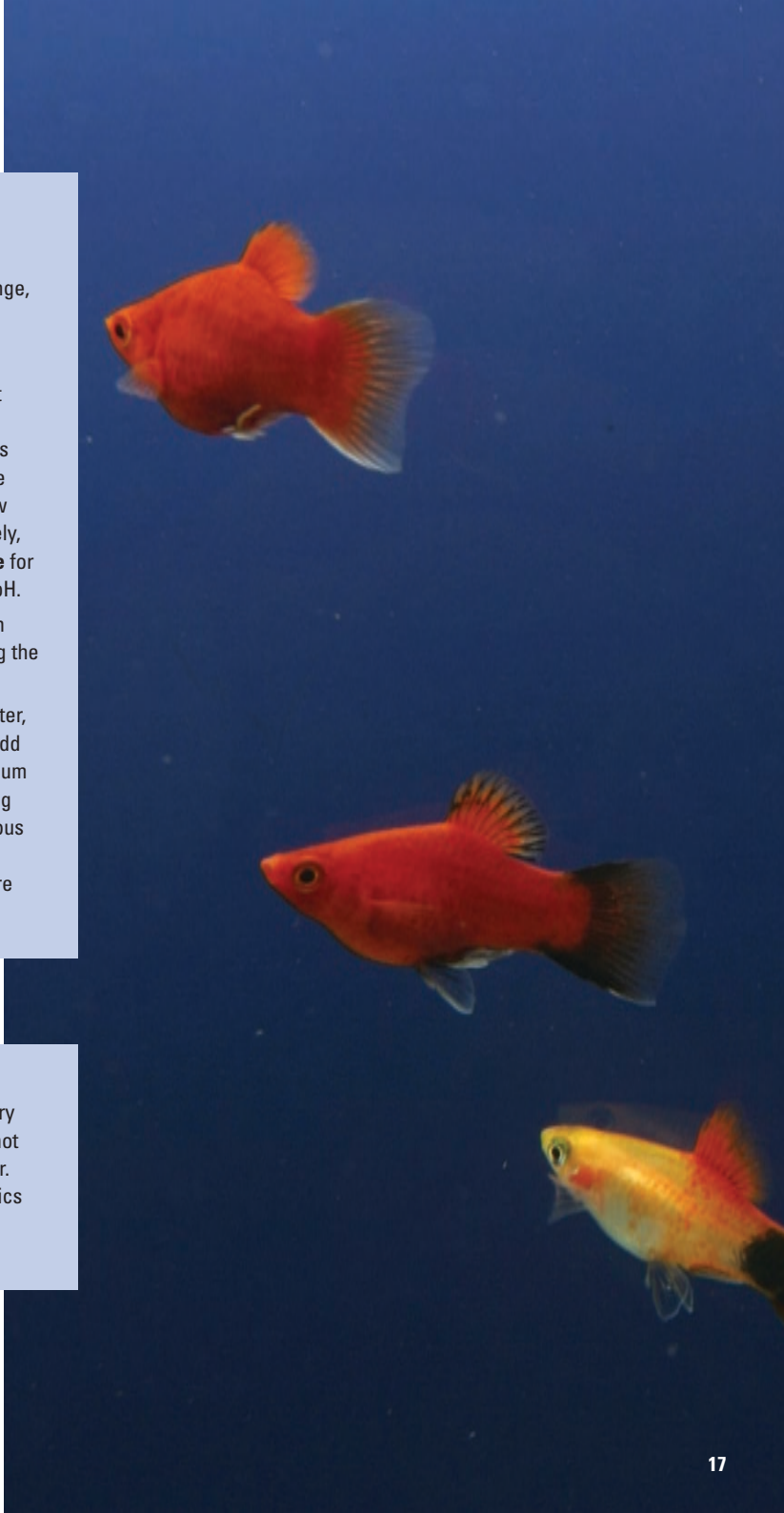
As well as extremes of pH, fish are especially sensitive to rapidly changing pH levels, even within their preferred range. This sometimes happens in water that is soft and poorly buffered, or if there is an excessive amount of algae. In extreme cases, the pH may fluctuate widely in a 24 hour period.

Controlling pH

To keep the pH stable, and within an ideal range, follow these tips:

- In soft water areas, perform more frequent partial water changes to replenish the water's buffering capacity. Use **AquaSafe** to make new water safe. Alternatively, use **Tetra EasyBalance** for a permanently stable pH.
- Control algae growth and avoid overstocking the aquarium.
- In extremely soft water, it may be possible to add materials to the aquarium to increase its buffering capacity (e.g. calciferous substrates). Ask your aquatics outlet for more information.

Some fish have very specific water chemistry requirements and cannot be kept in normal water. Always ask your aquatics outlet for advice when buying fish.



Oxygen (O_2)

Fish, plants and filter bacteria all require a plentiful supply of oxygen to remain healthy. Water contains around 20-30 times less oxygen than air, and it is therefore more of a concern for aquatic animals. It can be a particular problem in the summer, as warm water increases the oxygen demand of the fish, but can hold less oxygen. If fish begin hanging at the surface or around filter outlets, it can indicate a lack of oxygen.

Daily fluctuations in oxygen levels can also occur. This is because during the day, plants and algae produce oxygen via photosynthesis. However, this process stops at night, and they continue to use it up along with the fish and other aquatic life. If this happens to extremes, the fish may look quite lethargic in the morning.

Oxygen levels can be maintained with good water movement, which increases the diffusion of oxygen into the water from air. Air pumps, such as the **TetraTec APS**, are excellent for this. It is also important to control the growth of algae and plants, especially in heavily stocked aquariums.

Testing aquarium water

The only way to be sure that the water in your aquarium is healthy and balanced is by testing it. This is easy to do with **TetraTest kits**, which are available for all of the most important water quality parameters.

For a quick analysis of your water quality, **TetraTest QuickTest 5 in 1** strips give values for five important water quality parameters in just 60 seconds. This makes it easy to carry out regular checks to ensure your aquarium is healthy, thereby avoiding any problems.

For an even more thorough and accurate understanding of your water quality use **TetraTest liquid test kits**. These are especially useful for using in a new aquarium, where the filter has not yet fully developed its population of beneficial bacteria.

Ideal water quality parameters for a healthy aquarium*

Ammonia ($NH_3/_4^+$)	0mg/l
Nitrite (NO_2^-)	<0.3mg/l
Nitrate (NO_3^-)	<25 – 50mg/l
pH	6.5 – 8.5
Oxygen (O_2)	>6mg/l

*For community fish. Some fish may have special requirements

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