

Water Quality Basics

The key to fish health in an aquarium is understanding and controlling water quality. In nature fish live in a wide range of water conditions and in order to us provide the specific water parameters required by different types of fish, Melbourne tap water needs to be treated with three simple water additives.

pH:

pH is a measure of the alkalinity in aquarium water.

pH will usually drop over time due to the build up and break down of organic waste.

Adding the correct KH buffer is essential to raise the carbonate hardness and stabilize the pH of Melbourne water.

Be aware that some gravels, rocks and ornaments can raise pH to levels unsuitable for some fish species (see our staff for further information).

Dechlorinator (Step 1)

A good quality dechlorinator will eliminate chlorine and chloramines from tap water.

The levels of both chlorine and chloramines in Melbourne water are harmless to humans but potentially deadly to fish and your aquariums beneficial bacteria.

Hardness:

There are two types of water hardness which need to be monitored in a freshwater aquarium.

GH (General Hardness) (Step 2)

GH is a measure of the mineral content in aquarium water (calcium and magnesium ions) and affects the transfer of nutrients and waste products through cell membranes.

KH (Carbonate Hardness) (Step 3)

KH is a measure of the carbonate levels in aquarium water (bicarbonate and carbonate ions). Carbonates act as a chemical buffering agent, they help stabilize pH and are utilized by plants and fish and also aid in medicating.

Melbourne tap water is very soft, usually with a GH of around 2° and a KH of less than 1°. Both these parameters will therefore need to be raised. GH and KH conditioners vary in their specific compositions and the type you need to add will depend on the variety of fish you wish to keep. Fish & Feather has a range of GH and KH conditioners to suit all freshwater fish.

Tips

- Healthy plant growth is the key to healthy fish as they absorb waste products from water. (see *Fish & Feather Plant Tank Basics care sheet*)
- Regularly test your water for ammonia, nitrite & nitrate levels to ensure your biological filtration is sufficient, you are maintaining it adequately & your aquarium is not over stocked or overfed. (see *Fish & Feather Biological Basics & Filter Maintenance care sheets*)
- Never use a dechlorinator with ammonia locking / eliminating additives as they break your aquariums natural nitrogen cycle.

Feel free to talk to the friendly staff at Fish & Feather for further information

FISH & FEATHER PTY LTD

243 - 245 Colchester Road
Kilsyth, Victoria 3137

Phone: 03 9761 4410
E-mail: info@fishandfeather.com.au
Web: www.fishandfeather.com.au

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The table below is basic a geographical guide to optimal water parameters for different types of fish as found in their natural habitats around the world.

Note: Some subspecies may require slightly different parameters than displayed in the table below.



Typical Melbourne tap water	pH	GH	KH	
<i>(Results will vary in different areas)</i>	6.0 - 8.0	2°	<1°	
Optimal Results	pH	gH	kH	Temperature
Amazon / Asian	6.5 - 7.0	7-9°	5-6°	24°-27°
Fancy Bettas	6.5 - 6.8	5-7°	5-6°	25-28°
Livebearer	7.0-7.5	10-12°	7-8°	24°-27°
Coldwater	7.0-7.5	10-12°	7-8°	10°-22°
American Cichlid	7.0-7.5	8-12°	6-8°	24°-27°
African - Malawi	8.0-8.5	10-14°	8-12°	24°-27°
African - Tanganyika	8.5-9.0	12-16°	12-15°	24°-27°

* Discus prefer a temperature around 28c not 30-32c as recommended in older books and on some internet sites.

Three simple steps to make Melbourne water *Fish Safe*

- Step 1,** Add a dechlorinator to remove Chlorine and Chloramines.
- Step 2,** Add GH conditioner to add minerals to harden Melbourne's soft water.
- Step 3,** Add KH Buffer to raise the carbonate hardness and stabilize the pH.

Fish & Feather recommends owning a master test kit so you can easily monitor water parameters in your aquarium.



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