

## Why Test General Hardness (GH)?

GH is a measure of the amount of dissolved minerals in the water, particularly calcium and magnesium. General hardness (GH) is commonly overlooked in many aquariums, but this parameter plays a very important role in your aquariums overall health as these minerals are essential for various biological functions in fish, invertebrates, and plants. GH can also affect the stability of the aquarium's pH levels, as minerals such as calcium and magnesium can help buffer against pH swings.

Testing and maintaining the appropriate GH level is important for the health of aquarium inhabitants, as imbalances can lead to stress, disease, and even death. Deficiencies of calcium and magnesium can cause poor growth and faded colors in fish, molting difficulties in freshwater shrimp and can negatively affect the growth and development of aquatic plants.

Freshwater systems will typically have a GH of 4-8 dGH (70-140 ppm). Soft water species like Discus prefer very soft water below 4 dGH (<70 ppm), while some African Cichlid Species prefer a GH above 8 dGH (>140 ppm).



### DANGER

#### GH TEST SOLUTION

Causes skin irritation • Causes serious eye damage • May cause an allergic skin reaction • May cause respiratory irritation • May cause damage to organs through prolonged or repeated exposure • Do not breathe dust/fume/gas/mist/vapors/spray • Use only in outdoors or in a well-ventilated area • Wear protective gloves/protective clothes/eye protection/face protection • Contaminated work clothing should not be allowed out of the workplace • IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing • Immediately call a POISON CENTER/Doctor/physician/first aider • Specific treatment (see advice on this label) • IF ON SKIN: Wash with plenty of water and soap • If skin irritation or rash occurs: get medical advice/attention • Take off contaminated clothing and wash before reuse • IF INHALED: Remove person to fresh air and keep comfortable for breathing • Store locked up • Store in a well-ventilated place • Keep container tightly closed • Dispose of contents/container to authorized chemical landfill or if organic to high temperature incineration.

**FRITZ**  
AQUATICS

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# GH TEST KIT

INSTRUCTIONS



FOR FRESHWATER AQUARIUMS



## Directions for Testing GH Levels

NOTE: Read instructions thoroughly before testing.

**⚠ DO NOT allow Test Solutions to get into aquarium.**

To remove childproof safety cap, push down while turning.

- 01** Fill a test tube with **5 ml** of water to be tested (to the line on the tube).
- 02** Holding **GH Reagent Solution** dropper bottle upside down in a completely vertical position add one drop at a time. Ensure you count the drops as they are added.
- 03** Cap the test tube and gently shake several times to mix solution.
- 04** The test is complete when the water in the test tube, after having been gently shaken, turns from orange to green. If you have difficulty discerning the color after the first drop of test solution is added, remove the cap from the test tube and while holding it over a white background, look down through the tube.

The GH value is determined by the number of drops of reagent that must be added to turn the water in the test tube green. See conversion chart to determine GH.

For best results the tube should be viewed against the white area beside the color chart in a well-lit area with a light source behind you. Rinse the test tube with clean water after each use.

## GH TEST CHART

# of Drops	ppm GH
1	17.9
2	35.8
3	53.7
4	71.6
5	89.5
6	107.4
7	125.3
8	143.2
9	161.1
10	179
11	196.9
12	214.8

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STARTING  
POINT



END  
POINT

## Corrective Actions



To raise GH, use Fritz RO Recharge or Rift Lake Cichlid Salt as needed to adjust the GH to your preferred level.