Reef Water Anomalies

Red Sea 425

Aquarium Id: R2832

Setpoint Template: Natural Reef Template
Barcode: AW24-T4SA-5Z2E-UXK8-DYR7
Last Result Date: 14 January, 2025

You will find all the anomalies (if present) from your last sample here.

⚠ A red warning means that the anomaly is critical and needs to be fixed immediately.

⚠ A yellow warning means that the anomaly is uncritical or it will become critical if it's no solved.

The "Important Water Change Tasklist" section will help you correct high-element accumulations, reduce pollutants, and correct salinity deviations if they are present.

⚠ Alkalinity critical high

Element	Name	Analysis	SetPoint
Kh	Alkalinity	10.01 dKH	7.2 - 8.5 dKH



Your KH level is high. Carbonates are known by the abbreviation KH (carbonate hardness); their concentration is also known as alkalinity. Carbonate and bicarbonate (acid-binders) are consumed together with calcium to build up calcium carbonate in the skeleton of hard corals. It will also help to maintain a reasonably stable pH level in reef aquariums. Therefore, the stability and maintenance of this parameter are crucial for the reef aquarium. Decrease dosage/supply of carbonate hardness slowly till you reach your target.

⚠ Vanadium critical low

Element	Name	Analysis	SetPoint
V	Vanadium	u.	2 - 5 µg/l



Your Vanadium is low. Vanadium is an essential trace element for pigmentation, growth, and is involved in the biological process. Add Modern Reef V+ to correct the deviation as mentioned below.

Day 1 add 0.79 ml of Modern Reef V+ solution directly in your aquarium in a high flow area.
Day 2 add 0.79 ml of Modern Reef V+ solution directly in your aquarium in a high flow area.
Day 3 add 0.79 ml of Modern Reef V+ solution directly in your aquarium in a high flow area.
Day 4 add 0.79 ml of Modern Reef V+ solution directly in your aquarium in a high flow area.
Day 5 add 0.79 ml of Modern Reef V+ solution directly in your aquarium in a high flow area.
Day 6 add 0.79 ml of Modern Reef V+ solution directly in your aquarium in a high flow area.
Day 7 add 0.79 ml of Modern Reef V+ solution directly in your aquarium in a high flow area.
Day 8 add 0.79 ml of Modern Reef V+ solution directly in your aquarium in a high flow area.

⚠ Iodine critical low

Element	Name	Analysis	SetPoint
I	Iodine	24.85 µg/l	55 - 80 µg/l



Your Iodine is low. Iodine is consumed by many organisms, including corals, algae, phytoplankton, zooplankton, and other crustaceous. Iodine is fundamental in many cellular processes for fish and corals, enhancing coloration in many corals. Iodine can enter the reef aquarium with fish food but must be supplemented and monitored. Iodine consumption depends very much on the stock of animals and the setup used to maintain the reef aquarium. For example, the use of active carbon can reduce Iodine very fast. Low levels of Iodine can cause stagnation of coral growth, loss of coloration, and decrease coral's immune system. Add Modern Reef I+ to correct the deviation as mentioned below.

Day 1 add 0.26 ml of Modern Reef I+ solution directly in your aquarium in a high flow area.
Day 2 add 0.26 ml of Modern Reef I+ solution directly in your aquarium in a high flow area.
Day 3 add 0.26 ml of Modern Reef I+ solution directly in your aquarium in a high flow area.
Day 4 add 0.26 ml of Modern Reef I+ solution directly in your aquarium in a high flow area.
Day 5 add 0.26 ml of Modern Reef I+ solution directly in your aquarium in a high flow area.
Day 6 add 0.26 ml of Modern Reef I+ solution directly in your aquarium in a high flow area.
TIP: We have detected that your Iodine may be low due to the permanent use of active carbon. If you continue using active carbon, avoid using it in a reactor and instead use it in a net bag. Always use 25% of the recommended dosage only 5-7 successive days a month. We don't recommend keeping active carbon always in your aquarium.

⚠ Cobalt critical low

Element	Name	Analysis	SetPoint
Co	Cobalt	u.	1 - 1.9 µg/l



Your Cobalt is low. Cobalt is an essential element and is a component of vitamin B12. Symbiotic bacteria produce it, but it can also be supplied to the reef aquarium. In natural seawater, Cobalt occurs in an extremely low concentration of about 0.1-0.5 ?g/l, but we recommend keeping it between 1-2 ?g/l. Do not exceed the recommended values as high Cobalt can cause cyanobacteria or dinoflagellate outbreaks! Add Modern Reef Co+ to correct the deviation as mentioned below.

Day 1 add 0.26 ml of Modern Reef Co+ solution directly in your aquarium in a high flow area.
Day 2 add 0.26 ml of Modern Reef Co+ solution directly in your aquarium in a high flow area.
Day 3 add 0.26 ml of Modern Reef Co+ solution directly in your aquarium in a high flow area.
Day 4 add 0.26 ml of Modern Reef Co+ solution directly in your aquarium in a high flow area.
Day 5 add 0.26 ml of Modern Reef Co+ solution directly in your aquarium in a high flow area.
Day 6 add 0.26 ml of Modern Reef Co+ solution directly in your aquarium in a high flow area.
Day 7 add 0.26 ml of Modern Reef Co+ solution directly in your aquarium in a high flow area.
Day 8 add 0.26 ml of Modern Reef Co+ solution directly in your aquarium in a high flow area.
Day 9 add 0.26 ml of Modern Reef Co+ solution directly in your aquarium in a high flow area.
Day 10 add 0.26 ml of Modern Reef Co+ solution directly in your aquarium in a high flow area.

Chrome critical low

Element	Name	Analysis	SetPoint
Cr	Chrome	u.	0.1 - 0.3 µg/l



Your Chrome is low. Chrome is an essential trace element but can also be toxic at high concentrations. Therefore, always follow instructions on how to dose and maintain it safely. Add Modern Reef Cr+ to correct the deviation as mentioned below.

Day 1 add 0.04 ml of Modern Reef Cr+ solution directly in your aquarium in a high flow area.
Day 2 add 0.04 ml of Modern Reef Cr+ solution directly in your aquarium in a high flow area.
Day 3 add 0.04 ml of Modern Reef Cr+ solution directly in your aquarium in a high flow area.
Day 4 add 0.04 ml of Modern Reef Cr+ solution directly in your aquarium in a high flow area.
Day 5 add 0.04 ml of Modern Reef Cr+ solution directly in your aquarium in a high flow area.
Day 6 add 0.04 ml of Modern Reef Cr+ solution directly in your aquarium in a high flow area.
Day 7 add 0.04 ml of Modern Reef Cr+ solution directly in your aquarium in a high flow area.
Day 8 add 0.04 ml of Modern Reef Cr+ solution directly in your aquarium in a high flow area.
Day 9 add 0.04 ml of Modern Reef Cr+ solution directly in your aquarium in a high flow area.
Day 10 add 0.04 ml of Modern Reef Cr+ solution directly in your aquarium in a high flow area.

Iron critical low

Element	Name	Analysis	SetPoint
Fe	Iron	u.	1 - 2.3 µg/l



Your Iron is low. Iron is an essential trace element for both animal and vegetal cells. It also enhances the green color of Acropora. Iron is involved in photosynthesis, and it is crucial for symbiotic zooxanthellae in the coral. Iron is a base element for bacterial metabolism, too, can be depleted very fast in a reef aquarium with a high bacterial mass. We recommend not to overdose on Iron to avoid greening on your yellow Acropora. Add Modern Reef Fe+ to correct the deviation as mentioned below.

Day 1 add 0.50 ml of Modern Reef Fe+ solution directly in your aquarium in a high flow area.
Day 2 add 0.50 ml of Modern Reef Fe+ solution directly in your aquarium in a high flow area.
Day 3 add 0.50 ml of Modern Reef Fe+ solution directly in your aquarium in a high flow area.
Day 4 add 0.50 ml of Modern Reef Fe+ solution directly in your aquarium in a high flow area.
Day 5 add 0.50 ml of Modern Reef Fe+ solution directly in your aquarium in a high flow area.
Day 6 add 0.50 ml of Modern Reef Fe+ solution directly in your aquarium in a high flow area.

⚠ Manganese critical low

Element	Name	Analysis	SetPoint
Mn	Manganese	u.	1 - 3 µg/l



Your Manganese is low. Manganese is an essential element for corals as a nutrient necessary for photosynthesis, leading to better growth. In addition, it helps improve coloration, especially reds and oranges. It is also known to be very important for algae refugium and Goniopora corals. However, Manganese deficiency impairs various biological processes that will cause stress on corals that are sensitive to radiation. Add Modern Reef Mn+ to correct the deviation as mentioned below.

Day 1 add 0.60 ml of Modern Reef Mn+ solution directly in your aquarium in a high flow area.
Day 2 add 0.60 ml of Modern Reef Mn+ solution directly in your aquarium in a high flow area.
Day 3 add 0.60 ml of Modern Reef Mn+ solution directly in your aquarium in a high flow area.
Day 4 add 0.60 ml of Modern Reef Mn+ solution directly in your aquarium in a high flow area.
Day 5 add 0.60 ml of Modern Reef Mn+ solution directly in your aquarium in a high flow area.
Day 6 add 0.60 ml of Modern Reef Mn+ solution directly in your aquarium in a high flow area.

⚠ Nickel critical low

Element	Name	Analysis	SetPoint
Ni	Nickel	u.	3 - 5 µg/l

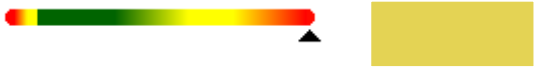


Your Nickel is low. Nickel is an essential element involved in important enzyme reactions. It is known to improve growth and enhance reds and pinks if dosed in nickel-limited reef aquariums. Add Modern Reef Ni+ to correct the deviation as mentioned below.

Day 1 add 0.72 ml of Modern Reef Ni+ solution directly in your aquarium in a high flow area.
Day 2 add 0.72 ml of Modern Reef Ni+ solution directly in your aquarium in a high flow area.
Day 3 add 0.72 ml of Modern Reef Ni+ solution directly in your aquarium in a high flow area.
Day 4 add 0.72 ml of Modern Reef Ni+ solution directly in your aquarium in a high flow area.
Day 5 add 0.72 ml of Modern Reef Ni+ solution directly in your aquarium in a high flow area.
Day 6 add 0.72 ml of Modern Reef Ni+ solution directly in your aquarium in a high flow area.
Day 7 add 0.72 ml of Modern Reef Ni+ solution directly in your aquarium in a high flow area.
Day 8 add 0.72 ml of Modern Reef Ni+ solution directly in your aquarium in a high flow area.
Day 9 add 0.72 ml of Modern Reef Ni+ solution directly in your aquarium in a high flow area.
Day 10 add 0.72 ml of Modern Reef Ni+ solution directly in your aquarium in a high flow area.

⚠ Phosphate critical high

Element	Name	Analysis	SetPoint
Po4	Phosphate	0.21 mg/l	0.018 - 0.07 mg/l



Your Phosphate is high. Phosphate is essential for all organisms in the reef aquarium. It can enhance health and growth due to increased zooxanthellae populations and photosynthetic on corals. However, values over 0.12 mg/l can cause browning, algae problems, and slow growth. What to do next depends on your Nitrate levels: • If your Nitrate is under 5 mg/l, you should consider dosing Modern Reef N+. Dosing N+ will increase Nitrates which will reduce and control Phosphate. • If your Nitrate is over 10 mg/l, you should consider improving the export of Phosphate and Nitrate in ratio. • If your Nitrate level is ok or where you want it to be, you can use a Phosphate absorber. Make sure that you use only 25% of the recommended dosage of the absorber and take it out after your reach the desired value.

⚠ Nitrate critical high

Element	Name	Analysis	SetPoint
No3	Nitrate	37.36 mg/l	2 - 7 mg/l



Your Nitrate is high. Nitrate is the oxidized form and final stage of the nitrogen cycle. Nitrate serves as a nutrient for many organisms in the reef aquarium as corals, microorganisms, and algae. Can improve coloration and growth in reef aquariums, especially in nitrogen-limited situations. The range of nitrate levels used by many successful aquarists varies widely. We have seen excellent results in aquariums with nitrate levels greater than 40-50 mg/l. However, Euro Corals farm likes to keep nitrates between 10-15 mg/l for better phosphate control. What to do next depends on your Phosphate levels: • If your Phosphate is under 0.02 mg/l, you should consider dosing Modern Reef P+ to prevent the increase of Nitrate till po4 is greatest than 0.02 mg/l and dose Modern Reef C+ at the same time till Nitrate decrease to the target. • If your Phosphate is over 0.02 mg/l, this means your aquarium is carbon deficient, and you should consider dosing Modern Reef C+ till Nitrate decrease to the target.

⚠ Salinity uncritical high

Element	Name	Analysis	SetPoint
PSU	Salinity	35.036 psu	33 - 35 psu



Your salinity is slightly high. Keeping an accurate salinity level in your reef aquarium is crucial to the health of all organisms in it. Corals require a stable salinity in the range of 33-35 PSU (1.0248-1.0264 sg @25°C). Therefore, the optimum target of salinity to keep a reef aquarium is 35 PSU (1.0264 sg @25°C). The salinity value is essential because it’s the sum of all chemical components and substances in the water. For an accurate deviation correction, our system will re-calculate the setpoints based on your salinity level. Nevertheless, we advise keeping your salinity at 35 PSU (1.0264 sg @25°C) for optimum results. Export small partial saltwater slowly from your aquarium and let the top-off osmosis system replenish the exported water. This procedure will decrease salinity gradually by exchanging saltwater with osmosis water. Do not decrease by more than 2 PSU per day as fast changes can cause problems. Test your salinity regularly and stop once the target is reached. Or you can do partial water changes with lower salinity values by following instructions on how to decrease your salinity in the water change section below. TIP: You can use a small diameter hose connected to a small valve for

acclimating fish. Place the end with no valve in your aquarium and the other end in a waste water line of your house or a bucket. Control the valve to export saltwater at the same speed as your auto top-off osmosis water system to replenish evaporated water. Do not decrease by more than 2 PSU per day as fast changes can cause problems. Repeat the process daily if needed, test salinity regularly, and remember to stop once the target is reached. Or follow instructions on how to reduce your salinity in the water change section below.

⚠ Bromine uncritical high

Element	Name	Analysis	Calculated Setpoint	
Br	Bromine	66.55 mg/l	55.89 - 66.05 mg/l	

Your Bromine is slightly high. Hard corals use Bromine for chromoprotein synthesis and build their skeleton. Also, symbiotic zooxanthellae within the corals use Bromine for the synthesis of photosynthetic enzymes. High values can cause tissue necrosis on corals. It does not require any action at this level, but optionally you can reduce the addition of Bromine and perform partial water changes.

⚠ Fluorine uncritical high

Element	Name	Analysis	Calculated Setpoint	
F	Fluorine	1.43 mg/l	1.22 - 1.32 mg/l	

Your Fluorine is slightly High. Fluorine is an essential element for corals. The concentration of Fluorine in the coral skeleton is between 2% and 4%. Relatively low but necessary to make coral skeleton harder. High Flourine can cause corals to expel zooxanthellae and is toxic in higher concentrations above 2.4 mg/l. Reduce the dosage of Fluorine and perform partial water changes.

⚠ Lithium uncritical high

Element	Name	Analysis	SetPoint	
Li	Lithium	224.7 µg/l	160 - 190 µg/l	

Your Lithium is slightly high. Lithium is a microelement alkaline light metal. Its biological function is still unclear, but it seems that it can help harden the coral skeleton. There is no known adverse effect at high levels, but we recommend staying within the recommended levels. High Lithium can be caused by cement and ceramic decoration. Reduce Lithium dosage, check for possible contamination sources and perform partial water changes. High Lithium can be caused by cement and ceramic decoration.

⚠ Molybdenum uncritical high

Element	Name	Analysis	SetPoint
Mo	Molybdenum	18.29 µg/l	10 - 12 µg/l



Your Molybdenum is slightly high. Molybdenum is essential for many enzymes within the nutrient cycle as an electron carrier. High levels are often associated with rusted metals around the aquarium but have no negative impact on corals. However, high levels can cause several bacterial growths like Cyanobacteria. Reduce Molybdenum dosage, check for possible contamination sources, and perform partial water changes. High levels are often associated with rusted metals around the aquarium.

⚠ Zinc uncritical low

Element	Name	Analysis	SetPoint
Zn	Zinc	1.46 µg/l	2 - 5 µg/l



Your Zinc is slightly low. Zinc is an essential trace element and important for reef aquarium biological filtration. In addition, It's necessary for the calcification process. It helps reduce oxidative stress on corals, the composition of healthy biofilms, and the breakdown of carbohydrates. Low Zinc can cause stagnation of coral growth and may weaken the biological cycle process. Add Modern Reef Zn+ to correct the deviation as mentioned below.

Day 1 add 0.46 ml of Modern Reef Zn+ solution directly in your aquarium in a high flow area.
Day 2 add 0.46 ml of Modern Reef Zn+ solution directly in your aquarium in a high flow area.
Day 3 add 0.46 ml of Modern Reef Zn+ solution directly in your aquarium in a high flow area.
Day 4 add 0.46 ml of Modern Reef Zn+ solution directly in your aquarium in a high flow area.
Day 5 add 0.46 ml of Modern Reef Zn+ solution directly in your aquarium in a high flow area.
Day 6 add 0.46 ml of Modern Reef Zn+ solution directly in your aquarium in a high flow area.
Day 7 add 0.46 ml of Modern Reef Zn+ solution directly in your aquarium in a high flow area.
Day 8 add 0.46 ml of Modern Reef Zn+ solution directly in your aquarium in a high flow area.

⚠ PAR Loss uncritical low

Element	Name	Analysis	SetPoint
PARL	PAR Loss	1.69 %	1.7 - 5.27 %



Your water is slightly clearer than usual allowing more PAR to reach the corals. This may cause pale coral coloration, less polyp extension and, if the water clarity was achieved fast, it might cause RTN on SPS corals due to the excessive waste and oxidants produced by the zooxanthellae in the photosynthetic process. Follow the advice on water clarity in this section.

Important water change tasklist

We recommend performing water changes to solve the following anomalies :
Uncritical high elements/pollutants : BROMINE, FLUORINE, LITHIUM, MOLYBDENUM
Critical high elements/pollutants : PHOSPHATE, NITRATE
Salinity status : Uncritical high

Our lab also detected that your salinity level has deviated. Therefore, our system calculated a correction salinity procedure to fix the salinity deviation.

Water change recommended schedule (interval 5-7 days):
#1 Remove 72.38 L and then add 72.38 L @ 34.86 PSU in order to reach 35 PSU
#2 Perform a 20% water change (Approximatly 72.38L @ 35 PSU)
#3 Perform a 20% water change (Approximatly 72.38L @ 35 PSU)
#4 Perform a 20% water change (Approximatly 72.38L @ 35 PSU)