

✓ Check List



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Phosphate

The phosphate concentration in the reef aquarium should be between 0.05 and 0.2 mg/l (ppm). Too low concentrations lead to an insufficient supply of the animals and can cause cynaobacteria plagues. Too high concentrations make coloured hard corals brown (too many zooxanthellae) and lead to plagues (e.g. filamentous algae, cyanobacteria).

Before each action, please check your phosphate level (standard = reference solution, second new test) again!

Too high phosphate concentrations

- Action:** use more fast-growing invertebrates (corals)
- Action:** increase the illuminance so that the corals grow faster and thus absorb more nutrients
- Action:** do not reduce the feeding of the animals - they should not suffer
- Action:** reduce the number of animals fed (e.g. fish, azooxanthellate coral)
- Action:** rinse frozen food well with tap water when defrosted
- Action:** more and/or more frequent water changes with a low-phosphate salt
- Action:** use only reverse osmosis water - tap water can contain phosphate
- Action:** do not use PVC hoses - they can release phosphate-containing plasticizers
- Action:** install a lime water reactor (KWR) or dose lime water manually (not if the pH of the aquarium is too high).
- Action:** install a skimmer oder larger skimmer
- Action:** install a POC filter (pellet filter)
- Action:** install an phosphate adsorbing filter (PMF, PMR)
- Action:** install an algae filter / algae refugium
- Action:** use extremely carefully fluid phosphate remover based on iron or lanthanum. Attention! Surgeon fish and relatives can die suddenly.
- Action:** install a fleece filter. Attention! Fleece filters also remove important plankton and organic particles, which serve as coral food, from the water.

Too low phosphate concentrations

- Action:** throttle or stop any type of phosphate filter
 - POC filters (pellet filters): remove e.g. half of the filter material
 - PMR/PMF: reduce the inlet flow
- Action:** feed your animals more - also feed for invertebrates is heavily contaminated with nitrate (liquid feed, dust feed, AquaCare+Globuli)
- Action:** use more animals that need to be fed (fish...)
- Action:** less water changes if the other water values do not suffer from it
- Action:** remove most of the algae from the algae filter / algae refuge
- Action:** use no or less phosphate precipitants
- Action:** dose phosphate-containing solutions, e.g. algae additive "P"

- **Action:** make sure that the carbonate hardness (alkalinity) is not too high at very low phosphate concentrations.