

What additives are required for a reef tank?

As noted in [What test kits are required for a reef tank \(or what parameters should I be monitoring\)?](#), the important parameters that you need to be monitoring are pH, alkalinity, calcium, specific gravity / salinity and temperature. To maintain those parameters at the correct value or range, it is only required to add three things.

pH and Alkalinity

These two parameters are related, with the pH of the system being dependent on the alkalinity (and gas exchange between the water and surrounding air). Note, never try to adjust the system pH if the alkalinity is at a suitable level. Alkalinity can be maintained at sufficient levels in three ways: water changes, buffers or combined method with calcium. The former is an inefficient way to do it and requires substantial water changes on a very regular basis. So unless there is access to a large amount of water, this is typically not a viable method. The second is using a buffer, which adds the alkalinity components into the water. There are commercial products available, plus sodium hydrogen carbonate can be used as a cheaper alternative (since that is predominantly what the commercial products contain). The third method will be discussed below with calcium.

Calcium

Calcium has the same similar techniques for maintaining it, and hence similar additives. Same comments for water changes applies here as it does above for alkalinity. The second technique, the use of a specific additive, uses calcium chloride to add calcium to the system. This is a white powder and again there are various commercial products available. Additionally, can also use calcium chloride from chemical supply companies or products such as Damp Rid (used to remove moisture from the air and can be found in most hardware stores), which is just calcium chloride. The third technique, or additive, that can be used for both calcium and alkalinity is either calcium hydroxide dosing or a calcium carbonate reactor (see [What does a calcium carbonate reactor do?](#)). Calcium hydroxide is mixed into pure water, allowed to settle, then dripped into the system to replace evaporation water. This adds both calcium and alkalinity.

Specific Gravity / Salinity

Specific gravity needs to be maintained on a daily basis due to the fact that pure water evaporates from the system, concentrating the salt dissolved in the water. Therefore, if pure water (which is the "additive") is not added back, over time the specific gravity will increase. Also see [What is the difference between salinity and specific gravity?](#).

Others

There are other additives available, such as iodine/iodide, strontium, magnesium etc. However, they are not vital for a system unless something is amiss and others seem to have no use what so ever. If you cover the three listed above (pure water, calcium and alkalinity), coupled with regular water changes, then all the important parameters will be taken care of.