

How to Cycle a Saltwater Tank

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In the last blog post I wrote about [how to set up a saltwater tank](#). The article was several thousand words long, but since I was covering so much material, I wasn't able to give adequate coverage to **how to cycle a saltwater tank**. In fact, I didn't really explain the process much at all—I just said...add a pinch of food and wait a while. That's why I thought I'd dive a little deeper on this page and explain how to cycle a saltwater tank and what we mean, as aquarium nerds when we talk about cycling a saltwater tank.

What does it mean to cycle a saltwater tank?

I'm not sure of the true etymological root of the term, but it seems to me to be short-hand for stating that your tank has successfully has the right bacteria growing in it to take waste through the nitrogen cycle—which is a really nerdy way to say—your tank is stable enough to add the first fish or coral. Cycling an aquarium before you put any fish in the tank is probably one of the most important steps in setting up your saltwater tank.

The Nitrogen Cycle

If you're like me, you're probably scratching your head right now saying...thanks a lot...it's all perfectly clear now...thanks for explaining to me that the complicated (and nerdy) aquarium phrase *how to cycle a saltwater*

tank with equally unclear language like...*the nitrogen cycle* to explain it. So now I will attempt to explain **the nitrogen cycle**.

The fish and coral you add to your tank are going to eat, drink sleep, pee and poop in your tank. Yep, that's possibly the first time I have ever publicly written about pee and poop, but I've wanted to ever since I was an adolescent. I'm not going to lie, that was one of my main reasons for wanting to write this article. Now that I got that out of the way, it feels a bit liberating...but I digress. The point I was trying to make about how to cycle a saltwater tank before I sophomorically distracted myself was that this waste can build up in the tank—and that's a bad thing.

If those tiny bacteria did not show up in our tanks right when we needed them (which is much better customer service than the cable guy who shows up whenever they want), there would be no aquarium hobby at all. The waste would pile up inside the tank and none of the fish or invertebrates you think of today would be able to live in the nasty glass bucket of glop that would be our aquarium, if it wasn't for those bacteria and the nitrogen cycle. By some miracle, these bacteria do show up on the scene and they convert the waste (a chemical called ammonia) into a chemical called nitrite and then a second group of bacteria convert the nitrite to nitrate—and that is the little secret that allows us to keep fish and corals in an aquarium. The process of converting ammonia to nitrite and nitrite to nitrate is called the nitrogen cycle, and once the bacteria in your aquarium have completed the nitrogen cycle, your aquarium is considered cycled.

How can you tell if your aquarium is cycled?

When the dishwasher is done washing the dishes, it beeps and a little green light tells me the dishes are done. Unfortunately, it is a little more challenging to tell if your saltwater tank is cycled. The only way I know of, to tell if your saltwater tank is cycled, is to test. You want to test for the three main water parameters involved in the cycling process: Ammonia, Nitrite and Nitrate. What you should notice is:

1) A spike in the ammonia concentration (the ammonia levels go from zero up to some higher number then fall back down again) means that the process of cycling has begun

2) A spike in nitrites after the spike in ammonia (the nitrite levels go from zero up to some higher number then fall back down again) is the next sign, followed by

3) A spike in nitrates followed by a decrease in nitrites and

4) Finally, ammonia and nitrite both stay at zero from now on

Will the aquarium stay cycled forever?

Truth be told, the aquarium does not stay cycled forever. Each time you add a fish to your aquarium, or a piece of food rots in the tank, you get a spike in ammonia and the process starts all over again—but the good news is that the process is a whole lot faster when you already have a few million bacteria growing in your tank. If you add fish to your aquarium slowly and give the bacteria in your tank a week or two to adjust, the bacteria will thrive and grow to gobble up the extra waste provided by the new fish and you probably won't even be able to tell there is ammonia in your saltwater tank at all. That is what I was referring to in the post a few weeks ago about [why it's a bad idea to add more than one fish at a time](#).

What is the best way to cycle a saltwater tank?

HOW TO CYCLE A SALTWATER TANK: THIS GUY IS DOING IT WRONG

The Fishless Cycling Method

Up until now, I have explained this whole how to cycle a saltwater tank business in terms of the fish ~~pee-and-poop~~ (aka. waste, aka. ammonia)—because that is why you need your tank to be cycled in the first place. But years ago, when dinosaurs roamed the earth and humans first started keeping saltwater fish in cave aquariums, those cave-dwelling humans would cycle their tanks using fish. They would fill their cave tank with water and drop in their first fish and pray that it would live. I know...seems barbaric, right? The problem with this method is that it is a sure-fire way to kill or at least maim a fish.

Now, rather than the drop and pray method, the best method how to cycle a saltwater tank is to use the *fishless cycling method*. Instead of dropping in a fish and hoping it survives, you drop in a small chunk of fish food or raw seafood and let it sit. It will go bad (rot) in the tank and give off plenty of ammonia, ringing the dinner bell for the hungry bacteria that help cycle your tank. You just sit back, test the water with your nitrate, nitrite and ammonia test kits and wait for the magic to happen. Over the next few days and maybe weeks, depending on how quickly the bacteria grow in your tank, the ammonia levels will rise and fall, followed by the nitrite levels and finally, you'll end up

with relatively harmless nitrates that you remove with your regular weekly water changes.

How to Cycle a Saltwater Tank: A variation of the fishless cycling method

Another way to execute the fishless cycling method is to use uncured live rock to seed the ammonia in the tank instead of the pinch of food I mentioned above. Uncured live rock generally has lots of random stuff growing on it that is in the process of dying. That sounds kind of morbid now that I have spelled that out here but that's what's going on. Theoretically, you can cycle your tank by letting that stuff die out in your tank. The dead stuff causes the ammonia spike...and the bacteria cycle the tank. The downside of this variant is that you have no control over how much stuff dies or how quickly it dies...but it certainly works.

How to cycle a saltwater tank quickly?

Can't wait weeks? Want to know how to cycle a saltwater tank quickly (or at least faster)? The trick is to jump start the cycle by adding some of the bacteria directly to your saltwater tank. If you know anybody else in the hobby who already has a saltwater tank, just borrow a small piece of live rock or a handful of sand from their aquarium and place it in your tank. The bacteria there will kick start your tank and get things going much faster. There are products you can buy that make the same claim. I've never used them, but they work by the same general premise...they are just bacteria in a bottle.