



# DrTim's Aquatics®

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## DRTIM'S AQUATICS RECIPES FOR SUCCESS

### Fishless Cycling A New Aquarium

with DrTim's Aquatics One & Only Live Nitrifying Bacteria and Ammonium Chloride

#### Ingredients

- 1 - bottle of DrTim's One & Only sized to Your Tank
- 1 - 2 oz bottle of DrTim's Ammonium Chloride\*
- 1 - bottle of DrTim's Aquatics First Defense

Test Kits for Ammonia, Nitrite and pH

\*a 2 oz bottle of ammonium chloride is enough to cycle aquariums up to 250 gallons



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#### Directions

Set-up your aquarium, filter and heater per the manufacturer's directions. The One & Only Live Nitrifying Bacteria need a place to live so for best results your tank needs to have gravel or crushed coral on the tank bottom\*\*. After set-up the water may be cloudy and cold (warmer water cycles faster - 78 to 80 ) so it is preferable to let the system run overnight before adding the One & Only just to make sure everything is ok. If you have a skimmer, UV and/or ozonizer it's best to set them up and test the connections now before adding the One & Only. If you are going to use a filter sock you can install it now to remove particles from the water.

Before adding One & Only dose the tank with the correct amount of First Defense to remove chlorine and chloramines (DO NOT use ammonia removing chemicals) which can harm the One & Only Live Bacteria from the water. Wait 30 minutes after adding First Defense to add the One & Only.

Before adding One & Only you need to remove the filter sock and turn-off the UV, skimmer and ozonizer. These will stay out or off for 48 hours after adding One & Only Live Nitrifying Bacteria. Keep the filter running with any filter floss, sponges, biomed and the like - DO NOT remove these.

To add One & Only shake the bottle well for a few seconds then pour the entire bottle into your tank. You can also add the One & Only to your sump or filter. Your aquarium water may become cloudy but do not worry it will clear in a short time. Add 4 drops (and 4 drops only\*) of DrTim's ammonium chloride per gallon of aquarium water. This is Day 1 in the chart below. We DO NOT recommend using household ammonia.

Wait 24 hrs - measure ammonia, nitrite and pH. Record on the chart below - this is day 2. On day 3 add another 4 drops of ammonia per gallon of aquarium water\*\*. Measure and record water quality for 2 more days. On Day 6 add another 4 drops of ammonium chloride per gallon of aquarium water\*\*. Measure water quality on Days 7 & 8 - in most cases at this point ammonia and nitrite will be zero or below 0.5. Congrats! Your tank is cycled - now you can add some fish and enjoy your aquarium! Follow the schedule on the chart below ending with your first biweekly 25% water change.

\*Precautions - Do not add keep adding ammonia until you get a reading of 2 ppm NH<sub>3</sub>-N - max 4 drops per gallon. You do not have to add ammonia every day the bacteria will not starve. If the pH drops below 7 perform a 25-30% water change taking the water from near the top of the water column. Do not disturb the substrate or remove the filter pad. Do not manipulate pH during the cycling period - the higher the pH the better (up to 8.5). Also note old recipes called for 1 drop per gallon - follow the directions on the ammonium chloride bottle.

\*\* If the ammonia or nitrite values are over 5 ppm NH<sub>3</sub>-N skip the next addition of ammonia drops.

\*\*\* For info on how to fishless cycle a quarantine tank please go to [www.drimsaquatics.com](http://www.drimsaquatics.com) or scan the QR code

#### Chart Your Cycling Success

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Add Ammonia drops	pH = NH <sub>3</sub> = NO <sub>2</sub> =	Add Ammonia drops	pH = NH <sub>3</sub> = NO <sub>2</sub> =	pH = NH <sub>3</sub> = NO <sub>2</sub> =	Add Ammonia drops	pH = NH <sub>3</sub> = NO <sub>2</sub> =
Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14
pH = NH <sub>3</sub> = NO <sub>2</sub> =	Add Fish!! (If both NH <sub>3</sub> and NO <sub>2</sub> are near 0)	pH = NH <sub>3</sub> = NO <sub>2</sub> =	Enjoy Your Tank	Enjoy Your Tank	pH = NH <sub>3</sub> = NO <sub>2</sub> =	Do a 25% Water Change



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## TOP 13 THINGS YOU NEED TO KNOW WHEN STARTING YOUR AQUARIUM

### Using DrTim's Aquatics One & Only™ Live Nitrifying Bacteria

Thank you for purchasing our One & Only™ Live Nitrifying bacteria. Please realize that bacteria are living organisms that respond, positively or negatively, to the conditions you put them in. To cycle your tank quickly please review the points below. Also download our step-by-step recipe card to help guide your through the process.

Best regards, Dr Tim.

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1. **Fishless Cycling Takes Longer** - For some reason people think fishless cycling only takes a few days. Wrong. Fishless cycling takes longer than cycling with fish. Fishless cycling takes 10 to 14 days because you, the aquarist, are adding a lot of ammonia. Cycling with fish where you add a FEW fish and the bacteria generally takes 4-5 days but this is at a lot lower level of ammonia. There is no wrong way to cycle just have a little patience.
2. **Live Sand** - if you are going to use live sand chances are high that cycling will take a little longer. Live sand contains organics and bacteria that breakdown those organics into ammonia. This causes two issues - high ammonia which slows the process and a bacteria bloom. Those bacteria take micro-nutrients out of the water which the nitrifiers need when fishless cycling. Follow the set-up guide for the tank and get everything running. After 24 hours measure the ammonia BEFORE adding the ammonium drops. If your water has ammonia then do not add the ammonia drops at this stage. Wait until ammonia disappears before adding more.
3. **Bare-Bottom** or lack of biomedica – Bare-bottom tanks take longer to cycle because the bacteria need a lot of surface to stick too. Bare-bottom tanks lack surface area. The glass (or plastic) bottom of the aquarium is not a good surface. This is especially true in quarantine systems - there is not enough good surface area for the bacteria. Many types of sponges are not great, either. Plus with lots of water circulation the bacteria are swept into the mechanical filter and when it is cleaned they are tossed-out. One solution, if you really want the look of a bare-bottom tank, is to add a layer of glass beads or marbles to the bottom. Cycle the tank and then slowly start to remove the marbles over a week or two AFTER cycling.
4. **Space Age media** - Along with #3, people will use an artificial media made from glass, ceramic or some other space age media. While these can work eventually the bacteria don't seem to colonize them very fast. So just putting a few blocks in an otherwise bare-bottom tank will not





work well. Also remember long-term these types of media need to be kept clean so water can freely flow through them.

5. **The Water Needs to be Chlorine/Chloramine Free** - Most tap water contains chloramines or chlorine to kill bacteria and make the water safe to drink. These chemicals need to be neutralized before adding the One & Only Live Nitrifying Bacteria. Use our First Defense to detoxify your water.
6. **High Ammonia** - People think they have to feed the bacteria every day or the bacteria will starve. Bacteria are not human; they do not need to eat every day to survive. Because the ammonia-oxidizing bacteria work faster than the nitrite-oxidizing bacteria the ammonia will read zero sooner than the nitrite will read zero. Don't believe the internet that says the bacteria will starve if there is no ammonia. Follow the recipe directions - 1) do not add ammonia if either ammonia or nitrite is above 5 mg/L-N and 2) only add a maximum of 4 drops per gallon do not continue to add ammonia until you get a reading of 2 ppm or else you risk overdosing the system with ammonia.
7. **Overdosing with Ammonia-Removing Chemicals** - It makes little sense to add an ammonia-removing chemical to your aquarium water when you are then going to add ammonium chloride drops. So don't! Just use a 'simple' dechlorinating agent like our First Defense to remove any chloramines or chlorine. Some popular brands of ammonia-removers advertise that they do not affect the nitrifying bacteria even at high doses - this is wrong. The overuse of ammonia-removing chemicals will stall the cycle.
8. **High Nitrite** - Related to #6. Many times the bacteria can quickly handle the overdosing of ammonia and you will get a zero (0) ammonia reading but the nitrite just gets higher and higher. High nitrite is very common when you rush the process or add too much ammonia too quickly. High nitrite inhibits the bacteria and stalls the cycle. If you have super high nitrite do a 33-50% water change without disturbing the substrate. Do not add chemicals to de-toxify the nitrite.
9. **No Nitrite** - The opposite of #8. The bacteria work so well that there is no nitrite and so you assume the bacteria are dead. If your water is ammonia and nitrite-free follow the recipe card and add another dose of ammonia. The goal of adding One and Only is to add enough bacteria to remove the ammonia and nitrite quickly and in many cases you may not see either while cycling.
10. **No Nitrate** - The end product of nitrification is nitrate. So logically you should be able to measure nitrate to make sure your aquarium is cycled – this is correct. The issue is that the majority of nitrate tests do not measure low nitrate values very well. Until the nitrate get around 20 mg/L the kits may not register a reading.
11. **Low pH/ Soft Water** - the nitrifying bacteria do not work fast at low pH values (under 7). They also don't work fast in RO/DI water or naturally soft water. It may seem to make sense that pure





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water is the best - it's pure! But that is not true. The bacteria need water with minerals and they prefer water with a higher pH value.

12. **Specialized Tanks** - plant tanks, shrimp tanks etc. with specialized soils that leach ammonia or keep the pH low or add lots of tannins to the water all negatively affect the performance of the bacteria. That means cycling will take longer. You either need to be patient or add a lot more nitrifying bacteria to the system.
13. **Temperatures During Shipping** - Nitrifying bacteria are relatively tough bacteria especially ours because we grow them on a small particle (which is why you need to shake the bottle well before adding them to the tank). They tolerate heat very well and only when exposed to temperatures over 130°F for several days do they suffer. At the other extreme, they do not survive freezing and if the bottle arrives frozen solid chances are the bacteria did not survive. If the temperatures in your area are at either of these extremes purchase the extreme weather package (Item#799P).

