

Reef Care Program

Instructions for converting to NO₃:PO₄-X from PO₄ and NO₃ absorbers and sulfur based de-nitrators

The following instructions are in addition to the general instructions for NO₃:PO₄-X contained in the Algae Control user manual.

Micro-biological reduction of algae nutrients (nitrates & phosphates) occur naturally in all anoxic areas of the aquarium (inside live rocks, porous filter media and substrates). This bacterial activity is limited by the availability of nitrates & phosphates, suitable carbon sources and mineral co-factors.

In a system where nitrates & phosphates have been regularly absorbed by resins, there will be a lower than normal background level of the natural nitrate & phosphate reducing bacteria and therefore it will take longer for these bacteria colonies to develop than in a system that was not previously treated.

The cultivation process of the bacteria is much slower than the absorption rate and therefore like many other changes made to the delicate system, moving from absorbers to bacterial reduction of the algae nutrients, requires a gradual and controlled procedure that will increase the success and reduce the stress for the corals. Sudden removal of all of absorption media can lead to an undesired rise in algae nutrient concentrations for several days.

The recommended procedure for conversion is based on a gradual weekly reduction in the quantity of the absorption media in the system together with a daily dosage of NO₃:PO₄-X and constant monitoring of the algae nutrient levels. If you are removing both nitrate and phosphate absorption media simultaneously dose the NO₃:PO₄-X according to the removal of phosphate media.

The procedure will take several weeks as defined below and depends on the initial level of nutrients. Once all the phosphate and/or nitrate absorbing media have been removed from the system refer to the Algae Control instruction manual for continued dosing. If at any time during the conversion period the corals show signs of stress, reduce the rate of removal of the absorption media.

Removal of Phosphate absorption media				
Initial PO ₄ level	Weekly removal of media	Daily dosage of NO ₃ :PO ₄ -X	Frequency of testing PO ₄	Instructions
Below 0.04 ppm	10%	1 ml per 100 liters of aquarium water	Twice a week	If the PO ₄ level rises above 0.04ppm delay the next removal of media by one week. If a week after 50% of the media has been removed the PO ₄ level is stable below 0.04ppm, remove the rest of the media in 3 equal weekly portions.
Above 0.04 but less than 0.2 ppm	15%	2 ml per 100 liters of aquarium water	Twice a week	If the PO ₄ level rises above 0.2ppm delay the next removal of media by one week. If a week after 45% of the media has been removed the PO ₄ level is stable below 0.2ppm, remove the rest of the media in 2 equal weekly portions.
Above 0.2 ppm	25%	3 ml per 100 liters of aquarium water	Once a week	If the PO ₄ level rises above 1.0ppm delay the next removal of media by one week.

Removal of Nitrate absorption media				
Initial NO ₃ level	Weekly removal of media or reduction of flow through sulfur de-nitrator	Daily dosage of NO ₃ :PO ₄ -X	Frequency of testing NO ₃	Instructions
Below 1ppm	25%	1 ml per 100 liters of aquarium water	Twice a week	If the NO ₃ level rises above 1ppm delay the next removal of media by one week. If after 50% of the media has been removed the NO ₃ level is stable below 1ppm, remove the rest of the media immediately. If the NO ₃ level drops below 0.25ppm reduce daily dosage of NO ₃ :PO ₄ -X by 50%.
Above 1ppm	33%	2 ml per 100 liters of aquarium water	Once a week	If the NO ₃ level rises above 5ppm delay the next removal of media by one week.

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