

# REEF CARE RECIPES™

Easy & effective guide to maintaining your reef aquarium



**MIXED REEF**  
SOFT & LPS CORALS PROGRAM

**SPS DOMINANT**  
PROGRAM

**ULTRA  
LOW NUTRIENT SPS**  
PROGRAM

**MARINE FISH**  
FISH ONLY PROGRAM



**FLIP** →  
FOR RECIPE

REEF CARE RECIPES™

# MIXED REEF

SOFT & LPS CORALS PROGRAM



\*Features Red Sea MAX® S-500

# MIXED REEF RECIPE

## RECOMMENDED MAIN WATER PARAMETERS

SALINITY	CALCIUM	MAGNESIUM	ALKALINITY	NITRATE	PHOSPHATE
34 <sub>ppt</sub> (1.023-1.025 @25°C)	450 ppm	1350 ppm	11.5 dKH	1-2 ppm	0.08-0.12 ppm

## CORAL PRO SALT

Recommended weekly water change of 10%



## SUPPLEMENTING

### Major Elements | Ca, Mg & Alk

- **Foundation A - CALCIUM+** | 3ml/100L (25 gal)/Day
- **Foundation B - KH/ALKALINITY** | 9ml/100L (25 gal)/Day
- **Foundation C - MAGNESIUM** | 1ml/100L (25 gal)/Day



### Trace & Minor Elements

- **Trace-Colors A | B | C | D (Combo Pack)**  
Dose according to Calcium uptake | 0.3ml/100L (25 gal)/Day



### Algae Management

- **NO<sub>2</sub>:PO<sub>4</sub>-X** | 2ml/100L (25 gal)/Day

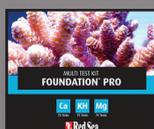


### Coral Nutrition

- **Reef Energy A** | 2ml/100L (25 gal)/Day (higher dosage required if LED used)
- **Reef Energy B** | 2ml/100L (25 gal)/Day (higher dosage required if LED used)



## TESTING



**Foundation Pro  
Test Kit**  
Calcium/Magnesium & Alkalinity



**NO<sub>2</sub>/NO<sub>3</sub>  
Marine Test Kit**



**PO<sub>4</sub>  
Marine Test Kit**

\* Dosages are based on typical systems. Actual dosages should be calculated according to a measured consumption in your aquarium, based on weekly testing.



REEF CARE RECIPES™

# SPS DOMINANT



\*Features Red Sea MAX® E-260

# SPS DOMINANT RECIPE

## RECOMMENDED MAIN WATER PARAMETERS

SALINITY	CALCIUM	MAGNESIUM	ALKALINITY	NITRATE	PHOSPHATE
35 ppt (1.025 @25°C)	430 ppm	1280 ppm	8 dKH	0.25-0.5 ppm	0.01-0.02 ppm

## RED SEA SALT

Recommended weekly water change of 10%



## SUPPLEMENTING

### Major Elements | Ca, Mg & Alk

- **Foundation A - CALCIUM+** | 4ml/100L (25 gal)/Day
- **Foundation B - KH/ALKALINITY** | 12ml/100L (25 gal)/Day
- **Foundation C - MAGNESIUM** | 2ml/100L (25 gal)/Day



### Trace & Minor Elements

- **Trace-Colors A | B | C | D (Combo Pack)**  
Dose according to Calcium uptake | 0.4ml/100L (25 gal)/Day



### Algae Management

- **NO<sub>3</sub>:PO<sub>4</sub>-X** | 1-2ml/100L (25 gal)/Day



### Coral Nutrition

- **Reef Energy A** | 4ml/100L (25 gal)/Day (higher dosage required if LED used)
- **Reef Energy B** | 4ml/100L (25 gal)/Day (higher dosage required if LED used)



## TESTING



**Foundation Pro  
Test Kit**  
Calcium/Magnesium & Alkalinity



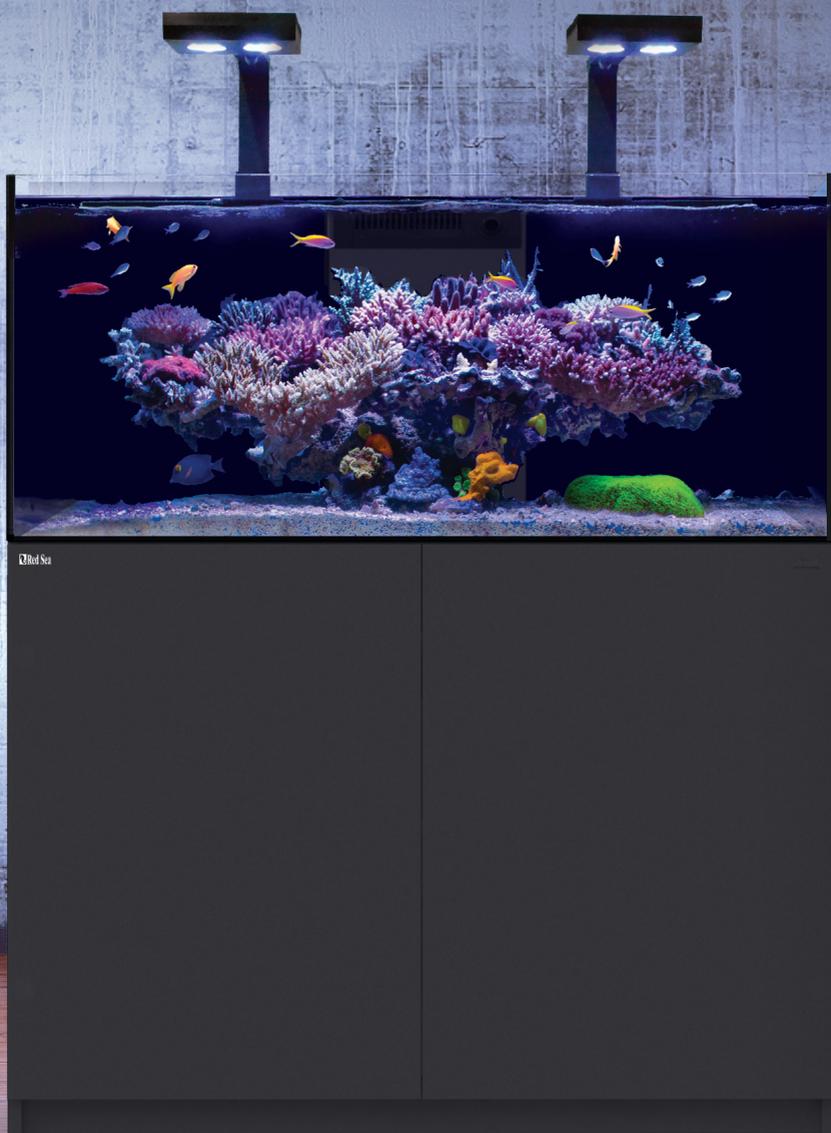
**Algae Control  
Pro Test Kit**  
Phosphate & Nitrate

\* Dosages are based on typical systems. Actual dosages should be calculated according to a measured consumption in your aquarium, based on weekly testing.



REEF CARE RECIPES™

ULTRA LOW  
NUTRIENT  
SYSTEM



\*Features Red Sea REEFER™ Deluxe 350

# ULTRA LOW NUTRIENT SYSTEM RECIPE

## RECOMMENDED MAIN WATER PARAMETERS

SALINITY	CALCIUM	MAGNESIUM	ALKALINITY	NITRATE	PHOSPHATE
33 ppt (1.024 @25°C)	410 ppm	1220 ppm	7 dKH	0 ppm	0 ppm

## RED SEA SALT

Recommended weekly water change of 10%



## SUPPLEMENTING

### Major Elements | Ca, Mg & Alk

- **Foundation A - CALCIUM+** | 2ml/100L (25 gal)/Day
- **Foundation B - KH/ALKALINITY** | 6ml/100L (25 gal)/Day
- **Foundation C - MAGNESIUM** | 1ml/100L (25 gal)/Day

### Trace & Minor Elements

- **Trace-Colors A | B | C | D (Combo Pack)**  
0.2ml/100L (25 gal)/Day

### Algae Management

- **NO<sub>3</sub>:PO<sub>4</sub>-X** | 1-2ml/100L (25 gal)/Day

### Coral Nutrition

- **Reef Energy A** | 6ml/100L (25 gal)/Day (higher dosage required if LED used)
- **Reef Energy B** | 6ml/100L (25 gal)/Day (higher dosage required if LED used)



## TESTING



**Foundation Pro  
Test Kit**  
Calcium/Magnesium & Alkalinity



**Algae Control Pro  
Test Kit**  
Phosphate & Nitrate



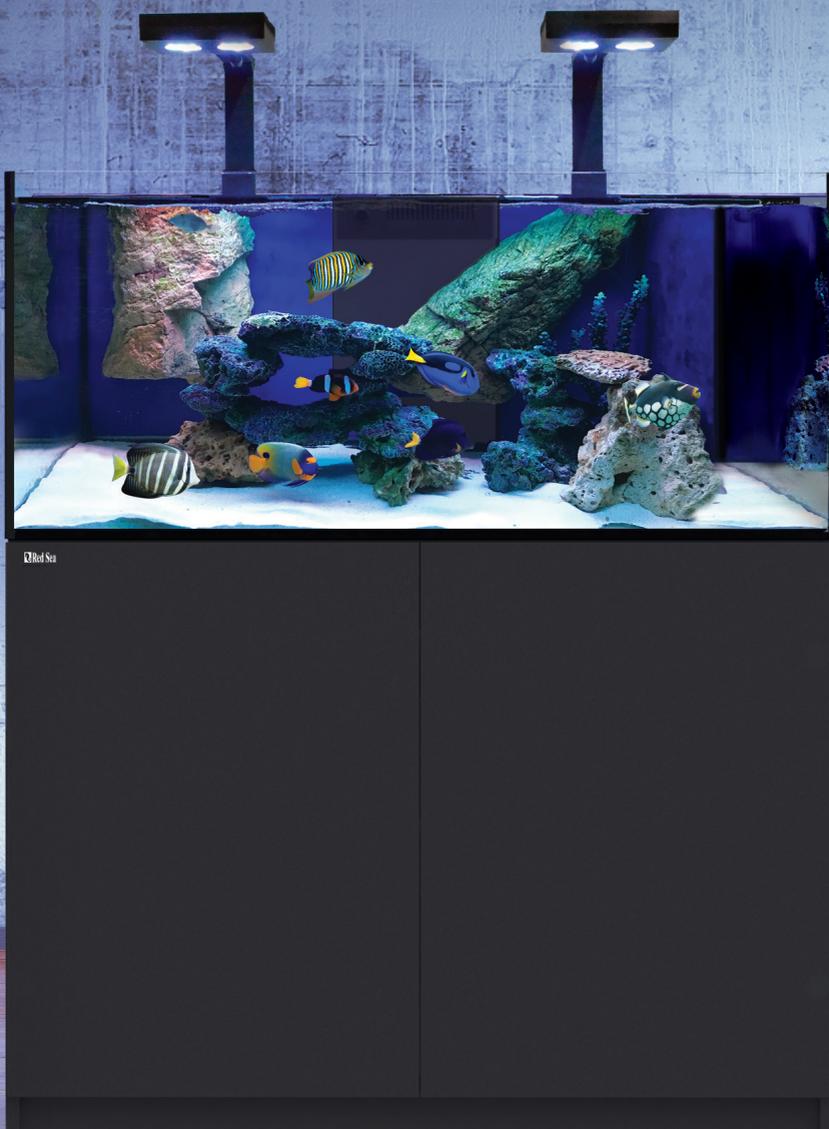
**Trace-Colors Pro  
Test Kit**  
Iodine, Potassium & Iron

\* Dosages are based on typical systems. Actual dosages should be calculated according to a measured consumption in your aquarium, based on weekly testing.



REEF CARE RECIPES™

# MARINE FISH



Red Sea

\*Features Red Sea REEFER™ Deluxe XL 425

# MARINE FISH RECIPE

## RECOMMENDED MAIN WATER PARAMETERS

SALINITY	CALCIUM	MAGNESIUM	ALKALINITY	NITRATE	PHOSPHATE
30 <sub>ppt</sub> (1.021 @25°C)	360-380 ppm	1060-1130 ppm	6.5-7 dKH	<10 ppm	<1 ppm

## RED SEA SALT

Recommended weekly water change of 10%



## SUPPLEMENTING

### Major Elements | Ca, Mg & Alk

#### • Coralline Gro

Recommended to maintain pH level and enhanced coraline growth  
5ml/100L (25 gal)/Day

**NOTE:** Weekly water changes will maintain the correct levels of all other Major & Trace elements.



### Algae Management

- NO<sub>3</sub>:PO<sub>4</sub>-X | 3ml/100L (25 gal)/Day



## TESTING



pH/Alk  
Marine Test Kit  
0.5 dKH resolution



NO<sub>2</sub>/NO<sub>3</sub>  
Marine Test Kit

\* Dosages are based on typical systems. Actual dosages should be calculated according to a measured consumption in your aquarium, based on weekly testing.



# Tips

## REEF CARE RECIPES™

**Q: Why is it the stability of salinity so important?**

A: Salinity is a measure of the concentration of all salt ions (such as sodium and chloride) in water. Both the composition and salinity of the water have a significant effect on the corals' ability to take the elements they need for all biological activities such as growth, from the surrounding water. Corals are able to thrive within a range of conditions but will only truly flourish if conditions are kept stable. To maintain a constant salinity, compensate for evaporation regularly, preferably with an ATO.

**Q: Why should the Alkalinity in reef aquariums be higher than in NSW?**

A: A reef aquarium is an artificial environment that is similar but not identical to a natural reef. In the open ocean coral growth has an insignificant effect on the chemistry of the surrounding water, however in an aquarium the foundation elements (Calcium, Carbonate Alkalinity & Magnesium) will very quickly become depleted. Coral Pro salt for example, is formulated to support ongoing coral growth in a reef aquarium and the relatively high Carbonate Alkalinity is one of the ways to ensure that ideal conditions are maintained.

**Q: Why is the balance between the foundation elements (Ca-Alk-Mg) so important?**

A: The foundation elements are the essential building blocks of coral skeleton and if they are not available in the correct ratios one of them will quickly become the limiting factor. For example over 90% of coral skeleton is made by combining Calcium and Carbonate ions from the water to form Calcium Carbonate however it can form as a strong crystal structure known as Aragonite or a more brittle crystal structure known as Calcite. In unbalanced conditions such as low levels of Magnesium the skeleton will develop with a higher proportion of Calcite making it more brittle and more susceptible to damage. Balanced levels of the foundation elements are necessary for healthy coral growth and therefore they should be supplemented as recommended in the RCP Recipes.

**Q: Can I do a lot of water changes instead of supplementing?**

A: Regular water changes should be able to replenish most elements if there is a very small coral population or insignificant coral growth. A lack of some elements however may in fact be a cause of insignificant coral growth. Typically, all aquariums with corals will do better with some form of supplementation such as recommended in the RCP Recipes.

**Q: Do I need to supplement trace elements?**

A: All corals have 31 minor and trace elements present in their skeleton and soft tissue in addition to the foundation elements. All of these minor and trace elements have an important role to play in the biology (metabolism and coloration) of corals and therefore are depleted regularly from the surrounding water. Red Sea's Trace-Color™ supplements divide the 31 elements into 4 related groups that enable their easy replenishment to the optimal levels.

**Q: What is the ideal supplementation and testing method?**

A: The RCP system recommends a daily supplementation of all elements in order to constantly maintain the optimal parameters for your type of aquarium. The daily dosage is calculated by testing each of the 3 foundation elements (Ca\ALK\Mg) on a weekly basis that enables an accurate adjustment of the dosage according to the coral population and growth. The minor and trace elements included in Red Sea's Trace-Color™ supplements A, B, C & D should all be dosed according to the aquarium's uptake of Calcium to replenish the elements used



up by coral growth and prevent toxic overdosing. The RCP Recipes define the supplements and tests for each type of reef aquarium.

**Q: Can I change my water parameters without hurting my corals?**

A: Corals can adapt to live in a range of water conditions however stability is just as important as the actual values. In order to make an adjustment to the overall parameters of a reef aquarium the changes should be done incrementally over a period of time to allow for a gradual acclimation of the corals. The RCP instruction manuals give specific guidelines that include maximum recommended daily increases of Ca\Alk\Mg levels and the correct order in which to add the various supplements for a smooth change of parameters.

**Q: Can I change from my current salt mix to Red Sea/Coral Pro salts without any adverse effects?**

A: There is no problem changing to either of Red Sea's salts or even changing between Red Sea and Coral Pro salts as long as the change is done correctly. The way to make a change in salt is firstly to adjust the current water parameter by supplementation (as described above) to reach the desired parameters of the new salt. Once the new parameters have been reached change over to using the new salt for regular 10% weekly water changes.

**Q: Do I need to feed my corals?**

A: Corals, depending on species, obtain 15% to 100% of their nutrition from food sources that are suspended in the aquarium water. Using coral foods (such as Reef Energy) that provide a balanced mix of carbohydrates, vitamins, amino & fatty acids that corals require will guarantee the health and vitality of all corals. In SPS dominated or Ultra Low Nutrient Systems or systems with LED lighting, higher doses of coral foods will be required.

**Q: How do I prevent or get rid of nuisance algae?**

A: To get rid of nuisance algae keep the algae nutrients Nitrate (NO<sub>3</sub>) and Phosphate (PO<sub>4</sub>) under control at the levels recommended for your type of system. This can be achieved by using Red Sea's NO<sub>3</sub>:PO<sub>4</sub>-X together with reef-spec protein skimming which will maintain them at the desired level. Do not overfeed your tank. Rinse and drain off excess water from all frozen foods prior to feeding.

**Q: How long does it take for NO<sub>3</sub>:PO<sub>4</sub>-X to work in an established aquarium?**

A: NO<sub>3</sub>:PO<sub>4</sub>-X enables a controlled biological reduction of algae nutrients by encouraging naturally occurring nutrient-reducing bacteria. There are many parameters that will affect the time it takes for NO<sub>3</sub>:PO<sub>4</sub>-X to be effective however the main issues are the availability and condition of anoxic areas in the system where the nutrient reducing bacteria grow and the initial levels of Nitrate and Phosphate. Some hobbyists have seen results in a few days and for others it has taken a few weeks. However by following the detailed instructions the bacteria colonies will grow, enabling accurate control over nutrient levels. Persistent levels of Phosphate are typically due to the presence of old live rocks that contain a large store of Phosphate that will leach out once Phosphate is being removed regularly from the water.

**Q: Is NO<sub>3</sub>:PO<sub>4</sub>-X Safe to use with dosing pumps? How do I do it correctly?**

A: NO<sub>3</sub>:PO<sub>4</sub>-X is safe for use with dosing pumps, however you need to make sure that the container and tubing are suitable (e.g. acrylic containers are not suitable for NO<sub>3</sub>:PO<sub>4</sub>-X) and that the container is almost closed to limit evaporation.

**Q: How do I prevent or get rid of cyanobacteria?**

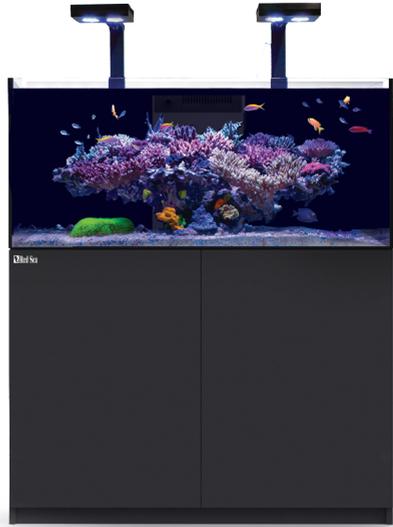
A: Cyanobacteria or "Red Slime" are the only life forms in the reef aquarium that can get the nitrogen they need from the air and therefore they can even grow in systems with very low Nitrate and Phosphate levels. Preventing and/or treating an outbreak of cyanobacteria is about maintaining very good conditions that includes REEF-SPEC® protein skimming, stable dKH value, good water flow, lighting at the correct color temperature and intensity. In low nutrient systems an imbalance of Nitrate and Phosphate can also create the conditions for an outbreak of Cyanobacteria that can often be controlled by raising Nitrate to at least 0.25ppm.

**Q: Can I use Activated Carbon all the time**

A: Red Sea's REEF-SPEC® Carbon can be used on an ongoing basis in all marine aquariums without causing lateral line disease (HLE) or depletion of trace elements.



# REEF CARE RECIPES™ HOW IT WORKS



## REEF CARE RECIPES™

**Reef Care Recipes™** brings to all hobbyists easily understandable and simple to implement reef maintenance activities specifically for your type of aquarium.

Simply look at the pictures and read the descriptions of the 4 main aquarium categories and decide which one best describes your system.

Each specific Reef Care Recipe™ defines the ideal water parameters and explains how to maintain them:

- Which salt mix should be used, how much and how often water changes should be made
- Which supplements should be added, with indicative levels of daily dosage
- Which water parameters need to be tested, how often and the recommended test kit

**Reef Care Recipes™** translates the practical experience of 6 years use of Red Sea's Reef Care Program™ on tens of thousands of diverse reef tanks worldwide, into simple to follow instructions for the main types of reef aquariums.

**Red Sea's Reef Care Program™ ("RCP")** is the result of years of research into the physiological demands of SPS, LPS and soft corals in reef aquariums. The RCP explains the biological connections between the major, minor and trace elements of seawater, defining the ideal balance of all water parameters and how to be proactive about controlling nuisance algae, coral growth and coloration.

Red Sea's website provides lots of detailed information about the various products that make up the RCP and has a series of educational videos to help understand how everything is interrelated.

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