## How to work with Care Products?





A sea water tank is not a closed system, so all chemical, physical and biological parameters are not stable. If the artificial balance is not managed by the aquarist, the system will collapse with the time. Picture: G. BAGINSKI

## The Basics

The chemistry of seawater is very complicated because:

- high salt concentrations create a fight for water molecules,
- the high ORP (redox potential) realizes oxidation processes and oxidizes trace elements to a useless substance for sea water animals,
- we do not know very much about the substances in sea water
- the biology (animals, corals, micro-organism) changes the concentration of the seawater substances,
- good tests of the most substances are not available. Therefore it is not possible to monitor most substances. Very often the aquaristic tests are used in the wrong way or they are useless,
- all aquaria are very different in technique, animals, care, water purification, feeding,
- the producers have the problem to make one dosing for all these different tanks.

In a natural coral reef nearly all essential substances are brought to the reef with currents from deeper water layers, sediment interchange, input of rivers and dust from the deserts. Waste substances are flooded away with other currents. In the aquarium all these processes do not exists and must be done through the aquarist with water change and dosing of important substances.



Every animal needs substances, that might be consumed or destroyed in the aquarium with the time. A dosing of these missing substances is important. Picture: AquaCare

But the right dosing is the art of seawater aquaristics. The best way is to start with the recommended dosing. Do not change this in the first 4 to 6 weeks and do not change other things like technique, feeding, water change intervals and other care products. After this time you can make a picture if the new substance causes a change in your aquarium. If you see negative effects stop the dosing or take a less quantity. If do not see an effect you can try a higher dosing. -Because the needs of the animals and other organisms will change with the time it is possible that you must change the dosing in the future.

It is very clever if you write down all things you will do with the aquarium. Then it is possible to find out what effect is caused from what doing.

## Overview

The table below is an overview about the care products that are necessary to maintain an aquarium over many years. Of course this table is not a rule and you can find e.g. aquariums without gorgonian and without chalk algae but with a sink of magnesium. In this case you must add magnesium.

Type of aquarium		Care product			Alternative		
Pure fish tank		1) 2)	KH-plus or Triple Buffer Trace elements	1) 2)	Lime Reactor (take a smaller size) large water changes		
Soft coral tank		1) 2) 3)	KH-plus or Triple Buffer Calcium-plus Trace elements	1+2)	Lime reactor (take a normal size)		
Mixed reef tank		1) 2) 3)	KH-plus or Triple Buffer Calcium-plus Trace elements	1+2)	Lime reactor (take a normal size) Lime water reactor KWR		
Hard coral tank		1) 2) 3) 4)	KH-plus or Triple Buffer Calcium-plus Trace elements Strontium	1+2)	Lime reactor (take a larger size) Lime water reactor KWR		
Options							
Many fishes much food any living stones				Phosp	Phosphate adsorber, Phosphate-minus-Reactor PMR, Nitrate filter ADN		
many crustaceans and / or much Caulerpa		Iodine in iodide form			Lugol solution (Take care with the dosing!)		
many gorgonians, much chalk algae, too less magnesium		Magnesium-plus			Magnesium tube, Magnesium reactor MgR		
general weak colours of hard corals		Iron-II					

## Combination of the products for automatic supply with dosing pumps

If you work with dosing pumps you normally have more care products than dosing channels. It is possible to mix some care products and to take only one channel for this. Tips about working with dosing pumps you will later on.

Or if you put the care products into the tank with refill water you must be sure that these care products will not cause negative effects in combina-

It is important to use the care products as fresh as possible. Do not store the products in open tanks a long time (maximum 4 weeks).

	KH-plus	Calcium- plus	Trace elements	Strontium	Iodine	Iron-II	Magnesium- plus
KH-plus		-	-	-	-	-	-
Calcium-plus	-		+	+	-	+	+
Trace elements	-	+		+	-	+	+
Strontium	-	+			-	+	+
Iodine	-	-	-	-		-	-
Iron-II	-	+	+	+	-		+
Magnesium-plus	-	+	+	+	-	+	

<sup>-</sup> this combination will not work

<sup>+</sup> a combination is possible