

Magnesium



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Problematic nature of Magnesium supply

Magnesium is not only taken up by some organisms (e.g. algae crusts, gorgonia), it plays an important role for the lime household. If the magnesium concentration in sea water falls clearly under 1300 mg/l, it easily happens that calcium precipitates e.g. as calcium carbonate and is not dissolved in the water any longer. Calcium concentration and carbonate hardness are falling rapidly; often so fast that the chalk reactor does not produce enough calcium and carbonate hardness to hold the concentrations of the two ions. Magnesium plays an important role as a precipitation inhibitor in the water chemistry of the sea aquariums. Only if sufficient magnesium is present as ion in the water - optimum at 1350 mg/l - calcium can also be in solution, too - (approx. 400 mg/l).



Turbo-Magnesium

The *Turbo* Magnesium granules are like the calcium *Turbo* Granules a high-soluble product. The solubility is several times higher than conventional materials, e.g. dolomite rock. So in aquarium conditions more magnesium in the same time will be dissolved. The magnesium concentration should be examined in the aquarium monthly. As a rough guideline use 1 liter

magnesium granulates per 1000 liters aquarium volume. Depending on your aquarium this quantity can be however too much or too less. The individual quantity can be found out only by own attempts. The right volume of *Turbo* Magnesium granules can change from year to year. Therefore the regular control of the magnesium concentration is important. The water that flows over the *Turbo* Magnesium granules has a higher pH value. If the pH values in the aquarium water is over 8,3 the pH value should be controlled regularly and

Technical Data	
Magnesium oxide	70-75%
Calcium oxide	4-5%
Iron oxide, aluminium oxide, silica oxide	3-4%
Annealing loss	16-20%
Size of granules	2-5 mm
Form	predominantly round
Bulk density	ca. 1300 g/l
Order number 2,5 kg	561-003
Order number 15 kg	561-015



if necessary the magnesium granulates must be removed.

Detail of an AquaCare aquarium

Magnesium Tube

Application

The *Turbo* Magnesium should not be mixed with calcium material in the chalk reactor. Because the granules have different dissolving properties. The aquarist can control the dissolving process of the two granules in a mixed system very badly. It is better to install a further column behind the chalk reactor (conventional system or *Turbo* Chalk Reactor) and fill this with *Turbo* Magnesium. If the optimal magnesium concentration is reached in the aquarium water, the column can be simply removed and the lime reactor is working alone. The achievement of the magnesium column can be adjusted with the amount of granules. The more granules are used the higher the efficiency. Fresh *Turbo* Magnesium granules are more efficient than used material.

Only if the needs are high you can put the *Turbo*-Magnesium directly into the chalk reactor.



Magnesium Tube as sump version (left) and for wall mounting (right)



Special design: the Magnesium Tube (left tube) is mounted directly onto the mounting plate of the Turbo Chalk Reactor (only size 4 and larger)

Technical Data

for <i>Turbo</i> size (Filter sump version)	diameter	length	order number
<i>Turbo</i> 1+2	50 mm	400 mm	312-105
<i>Turbo</i> 3	63 mm	600 mm	312-111
<i>Turbo</i> 4+5	110 mm	700 mm	312-110
for <i>Turbo</i> size (wall mounting)	diameter	length	order number
<i>Turbo</i> 1+2	50 mm	400 mm	312-106
<i>Turbo</i> 3	63 mm	600 mm	312-009
<i>Turbo</i> 4	110 mm	700 mm	312-008
<i>Turbo</i> 5	110 mm	1000 mm	312-007
connectors	10 mm push fit fittings		
materials	PVC, PP, POM		

Special length are possible

Magnesium-plus

Very small aquaria that are not connected with a chalk reactor or magnesium reactor, can be supplied with fluid magnesium.



Order numbers

500 ml	517-002
1000 ml	517-010
5000 ml	517-050
5000 ml concentrate	517-250



Detail of an AquaCare aquarium