

Magnesium



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Problem of magnesium supply

Magnesium is not only increasingly absorbed by some organisms (e. g. red calcareous algae, gorgonia); it also plays an important role in the lime balance. If the magnesium concentration in seawater falls clearly below 1300 mg/l, it can easily happen that calcium precipitates as calcium carbonate and is no longer available dissolved in the water. Calcium concentration and carbonate hardness are falling rapidly; often so quickly that the lime reactor is no longer able to dissolve new calcium and carbonate hardness (alkalinity) in seawater. Magnesium therefore plays an important role as a precipitation inhibitor in the water chemistry of the marine aquarium. Only when there is enough magnesium as ion in the water - optimum at 1350 mg/l - can calcium be dissolved in the water at the optimum concentration (approx. 400 mg/l).



Turbo-Magnesium

Like the calcium *Turbo* granules, the *Turbo*-Magnesium granulate is a highly soluble product. Solubility is many times higher than that of conventional materials such as dolomite rock. This means that under aquarium conditions more magnesium is dissolved at the same time. The magnesium concentration in the aquarium should be checked every month. As a rough

guideline, 1 litre of magnesium granulate should be used per 1000 litres of aquarium volume. Depending on the aquarium, however, this amount can be too much or too less. The individual quantity can only be determined by experiments. Over the years, the quantity determined may also change. Therefore, regular monitoring of the magnesium concentration is important. Water that flows through the *Turbo*-Magnesium granulate has a higher pH value. At pH-values of more than 8.3 in the aquarium water, the pH-value should be

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



checked regularly and if necessary the *Turbo*-magnesium granulate should be removed.

Detail of an AquaCare aquarium

Magnesium Tube

Application

Turbo-magnesium should not be mixed with calcium material in the calcium reactor. The granules have different dissolving characteristics and magnesium can quickly accumulate too much. The aquarist is unable to control the performance of the two granules in a mixing system. It is better to install an additional column behind the lime reactor (traditional system or *Turbo* chalk reactor) and fill it with *Turbo*-magnesium. Once the optimum magnesium concentration in the aquarium water has been achieved, the column can be easily removed and the lime reactor continues to work on its own. The power of the downstream magnesium column can be roughly regulated with the filling quantity. The more granules used, the higher the performance. It should be noted that fresh *Turbo*-magnesium granules have a higher performance than those already in use. The *Turbo*-magnesium may only be filled directly into the calcium reactor if the magnesium requirement is very high.



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 (not size 1)

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	430 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	430 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

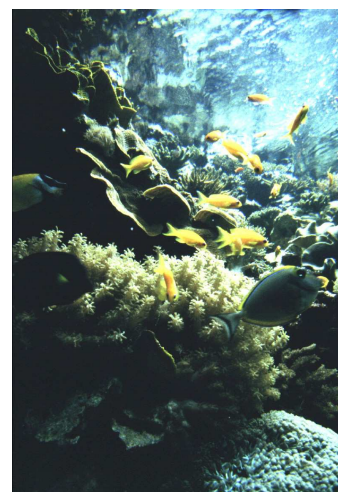
Magnesium-plus

Very small aquariums, to which neither lime nor magnesium reactors are connected, can be easily supplied with the AquaCare liquid product Magnesium-plus with missing 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

The AquaCare Magnesium Reactor MgR is available for the very large demand.