

# Filter materials



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## Trickling filter material for high hydraulic loads



- light protection for bacteria even if the filter is not light-tight
- high biological effective surface
- low blocking danger
- good de-aeration and high oxygen supply
- large free space
- material made of inert polyethylene
- very high radial forces possible (320 Nm/cm), so suitable for very high hydraulic loads

**Technical data:**  
 Dimensions: ..... d16 × 20 mm  
 Weight: ..... 98 kg / m<sup>3</sup>  
 Surface (biological effective):  
 ..... 500 m<sup>2</sup>/m<sup>3</sup>  
 Number of pieces: ..... 161,000 / m<sup>3</sup>  
 Free volume: ..... 90%  
 Material: ..... polyethylene  
**Order number:**  
 1 liter: ..... 591-001  
 other sizes on request

## Filter material with very high free space



- very high free volume, therefore:
  - high hydraulic loads possible
  - any anoxic conditions
  - ORP is not reduced even after long operation time
  - any blocking possible
- perfect oxygen supply and de-aeration: balanced gas equilibrium
- made of inert and virgin polypropylene: any organic material or colours will reach the water
- height filter bed heights: any solidification of the material
- sharp edges therefore: intensive drop creation and distribution in the filter bed
- ideal for overflows and trickling filters for sea water

**Technical data:**  
 Dimensions: ..... 27×27 mm  
 Weight: ..... 72 kg / m<sup>3</sup>  
 Surface  
 (biological effective): ..... 180 m<sup>2</sup>/m<sup>3</sup>  
 Number of pieces: ..... 44,500 / m<sup>3</sup>  
 Free volume: ..... 92%  
 Material: ..... Polypropylene virgin  
**Order number:**  
 5 liter: ..... 590-005  
 10 liter: ..... 590-010  
 200 liter: ..... 590-200

## Quartz sand for moving bed reactors and sand filter



- sharp edged gravels
- graining 0,4...6 mm
- for moving bed reactors and for sand filters
- larger graining for support layers of other filters

### Technical data:

Silica oxide: .....	ca. 98%
Bulk density: .....	ca. 1.5 kg/l
Solubility: .....	< 0.01 g/l
pH-value: .....	neutral
Graining:.....	0.4...0.8 mm
.....	0.7...1.3 mm
.....	1...2 mm
.....	2...3 mm
.....	3...6 mm

## Turbo-Calcium granules for lime reactors and mineral filters



- porous and very pure calcite granules for all lime reactors and mineral filters
- about 5...11 time faster dissolving compared to other materials
- phosphate-free
- normally round form; suitable for high velocity technique, e.g. AquaCare Turbo lime reactor

### Technical data:

Calcium carbonate (Calcite): .....	97%,
Magnesium carbonate: .....	2,1%
Graining: .....	3-5 mm,
Bulk density: .....	ca. 1250 g/l

### Order number:

2,5 kg bag .....	560-003
15 kg box .....	560-015

## Turbo-Magnesium granules for magnesium supply



- porous and round material
- better dissolving than other materials, e.g. dolomite
- phosphate-free
- ensure the magnesium supply of a reef aquarium
- raises the pH value

### Technical data:

Magnesium oxide: .....	70-75%
Calcium oxide: .....	4-5%
Fe <sub>2</sub> O <sub>3</sub> , Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub> .....	3-4%
glow loss .....	16-20%
Graining: .....	2-5 mm
Bulk density: .....	ca. 1300 g/l

### Order number:

2,5 kg bag .....	561-003
15 kg box .....	561-015

## Calcium carbonate rubbles (grey) for de-acidification



- sharp rubbles
- good de-acidification
- very pure
- suitable for mineral filters and de-acidification columns after sulphur filters (autotrophic de-nitrification)
- substrate for highly buffered water (east African cichlids)

### Technical data:

Calcium carbonate: ..... 99,1%  
Magnesium carbonate: ..... 0,4%  
Fe<sub>2</sub>O<sub>3</sub>, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>..... <0,5%  
Graining: ..... 5...8 mm  
other grains on request  
Bulk density : ..... ca. 1400 g/l

### Order number:

1 t on a pallet ..... 562-000

## Calcium carbonate rubbles (white) for de-acidification



- sharp rubbles
- good de-acidification
- very pure
- suitable for mineral filters and de-acidification columns after sulphur filters (autotrophic de-nitrification)
- substrate for highly buffered water (east African cichlids)

### Technical data:

Calcium carbonate: ..... 99,1%  
Magnesium carbonate: ..... 0,4%  
Fe<sub>2</sub>O<sub>3</sub>, Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>..... <0,5%  
Graining: ..... 3...6 mm  
other grains on request  
Bulk density : ..... ca. 1400 g/l

### Order number:

1 t on a pallet ..... 566-000

## Coral gravel for sea water tanks

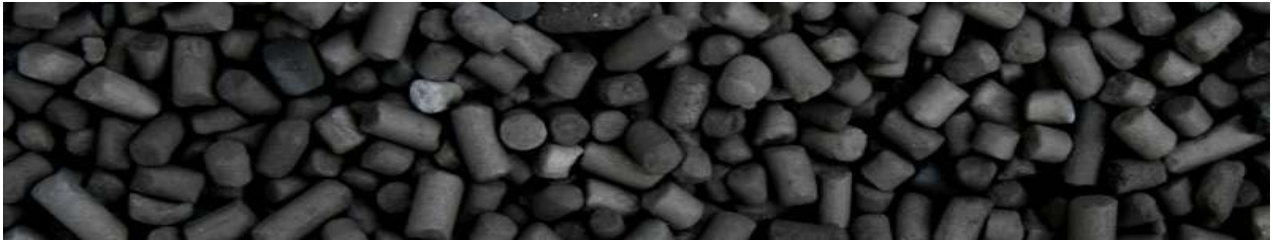


- natural porous material
- different graining available
- order quantity: min. 1 ton

### Technical data:

Calcium carbonate: ..... main component  
impurities: ..... variable

## Activated carbon for sea water



- phosphate-free – algae will not be enforced
- fast degassing and therefore immediately ready for action
- pH and ORP neutral
- low dusty concentration – crystal clear water
- high adsorption capacity - long life time
- large free volume – low danger for blocking
- steam activated hard coal
- suitable for chlorine elimination, tannin elimination, ozone destruction and as biological substrate

### Technical data:

Cylindrical form,  $\varnothing$  ca. 4 mm,  
Dust..... < 1%,  
Bulk density ..... 470±20 g/l,  
Water content ..... < 5% (w/w),  
Ash ..... < 5% (w/w),  
Surface (BET) ..... 1000±50 m<sup>2</sup>/g,  
apparent density ..... ca. 0.8 kg/l

### Order number:

1 liter..... 573-005  
25 kg (ca. 50 l) ..... 573-250

## Sulphur for de-nitrification filters (nitrate filters)



- ideal for autotrophic de-nitrification
- low dissolving, extremely low pollution of the water
- high strength, suitable for high water velocities
- normally round form reduces the hydraulic resistance

### Order number:

1 liter (1,2 kg).....575-010  
25 kg (ca. 21 liters) .....575-250

### Technical data:

Graining .....3...8 mm  
Form: ..... normally round  
Purity: ..... min. 99,8%  
Ashe/carbon/H<sub>2</sub>SO<sub>4</sub> .....max. 0,09%  
Bulk density: ..... ca. 1200 g/l  
usual in the trade free of arsenic, selenium, tellurium

## Adsorption material for removing phosphate



- high adsorption power
- safe adsorption
- dust-free
- regular size: perfectly suitable for moving bed technology
- any iron release
- any discolouration

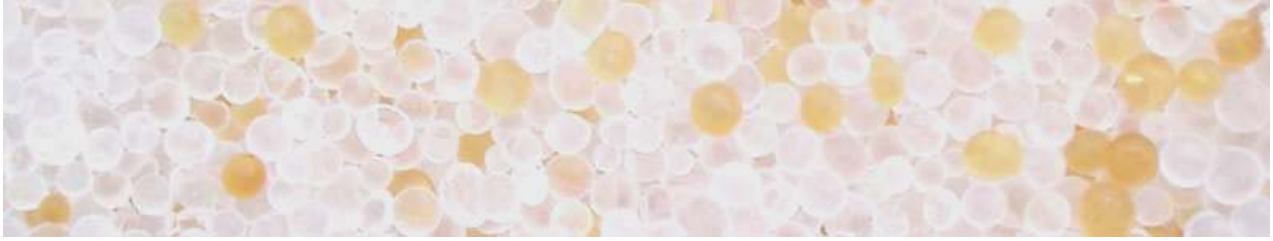
### Order number:

1 liter .....578-010  
28 liters.....578-280

### Technical data:

Matrix: ..... porous polystyrene impregnated with iron hydroxide nano particles  
Size: .....0.4...1.2 mm  
whole balls: ..... min. 95%  
Bulk density: ..... 790...820 g/l  
Temperature range: ..... 0...80°C  
pH range: .....4.5...8.5  
Salinity: .....0...40/1000

## Drying pearls for reducing the air humidity



- ideal for drying air
- dry air will enlarge the power of ozone generators
- with humidity indicator (orange = o.k.; colourless = charged)
- will be regenerated in the oven at 130...140°C

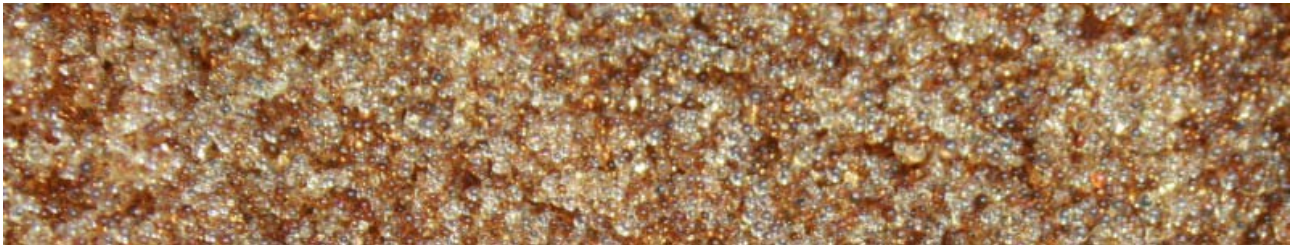
### Technical data:

Material: ..... silicon oxide (amorphous)  
 Bulk density: ..... 0.8 kg/l  
 Content indicator pearls: ..... 17%  
 Regeneration frequency: ..... min. 10 times

### Order number:

2 kg ..... 577-002

## Mixed bed for producing ultra pure water



- ideal in combination with reverse osmosis technology
- suitable for simple analytic purposes
- eliminates salts
- eliminates silicic acid – ideal for sea water production
- simple control with electrical conductivity

### Technical data:

Type: ..... desalination in H<sup>+</sup>, OH<sup>-</sup> form  
 strong acid component: ..... 38...42%  
 strong basic component: ..... 56...62%  
 Bulk density: ..... 665...740 g/l  
 max. operation temperature: ..... 60°C  
 minimum conductivity of produced water:  
 ..... < 0,01 µS/cm

### Order number:

1 liter ..... 580-002  
 25 liters ..... 580-025

## Calcium hydroxide for producing lime water („Kalkwasser“)



- raises the pH value
- precipitates phosphate
- any raising of buffer capacity (KH, alkalinity), but raises the calcium concentration
- ideal for AquaCare lime reactor KWR
- high purity

### Technical data:

Quality: ..... ultra clean  
 Content: ..... minimum 95%  
 Heavy metals as lead: ..... < 0,001%  
 HCl insoluble ..... < 0,2%

### Order number:

500 g ..... 570-005  
 8 kg ..... 570-080