

Filter materials

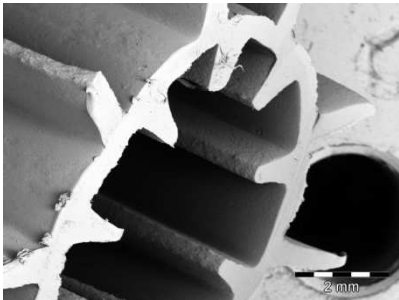


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Filling material with high interstitial volume



- 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



Technical data:

Length: 25 ± 0.37 mm
 Diameter: ca. 30 mm
 Weight: 2.044 ± 0.193 g
 Volumetric mass: 93 kg / m³
 Surface (biological effective):
 471 m²/m³
 Number of pieces: 45,400 / m³
 Free volume: 90.3%
 Material: Polyethylen HD
 Specific weight: 0.96 kg/l
 Colour: schwarz
 Packagings: 1.0 or 2.5 m³ BigBags

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 / m³
 Surface
 (biological effective): 180 m²/m³
 Number of pieces: 44,500 / m³
 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

Zeolith filter material for sand filters



- rough surface for maximum binding of particles
- best for replacing sand of conventional sand filters
- binds about 3 times more dirt than sand sand filters
- filters down to 5 µm (conventional sand filters ca. 25 µm)
- very good running-in properties for biological filters
- adsorbs ammonia, too

Technical data:

height of filter bed ca. 1.2 m
freeboard height: 50% of filter bed
Filter velocity: 30...49 m/h
back wash: 35 m/h
empiric formular: $(Ca, K_2, Na, Mg)_4Al_8Si_{40}O_{96} \cdot 24 H_2O$
Mineral form: Clinoptilolite
Content of Clinoptilolite: 85...90%
silicon oxide: 65...71%
bulk density: ca. 0.82 kg/l
Graining: 0.5...1.5 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%
Calcium oxide:	2.1%
Fe ₂ O ₃	0.65%
Al ₂ O ₃	0.52%
SiO ₂	4,41%
glow loss	21.5%
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 ₂ O ₃ , Al ₂ O ₃ , SiO ₂	<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
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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 ₂ O ₃ , Al ₂ O ₃ , SiO ₂	<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
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Coral gravel for sea water tanks

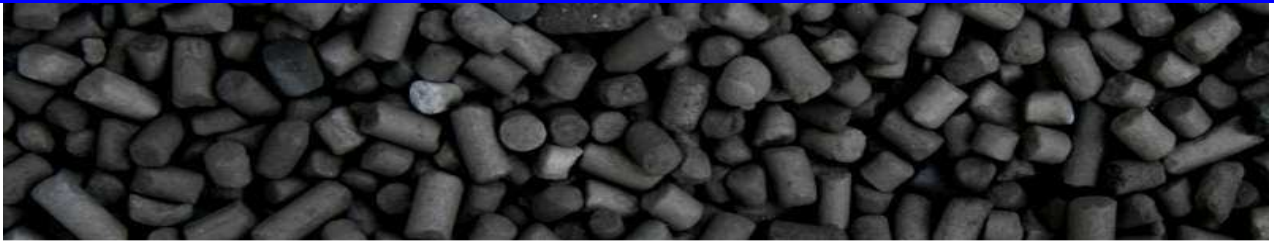


- natural porous material
- different graining available
- order quantity: min. 1 ton

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, ϕ ca. 4 mm,
 Dust..... < 1%,
 Bulk density 470±20 g/l,
 Water content < 5% (w/w),
 Ash < 5% (w/w),
 Surface (BET) 1000±50 m²/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:

Graining3...8 mm
 Form: normally round
 Purity: min. 99,8%
 Ashe/carbon/H₂SO₄max. 0.09%
 Bulk density: ca. 1200 g/l
 usual in the trade free of arsenic, selenium, tellurium

High Grade Adsorption material for removing phosphate



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

Order number:

1 liter578-010
 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

Adsorption material for removing phosphate



- high adsorption power
- safe adsorption

Order number:

1 liter 579-010
 27 liters 579-027

Technical data:

Size:0.5...2 mm
 Bulk density:approx. 650 g/l

Zeolite material for the zeolite process



- high ammonia binding capacity
- large interstitial volume

Order number:

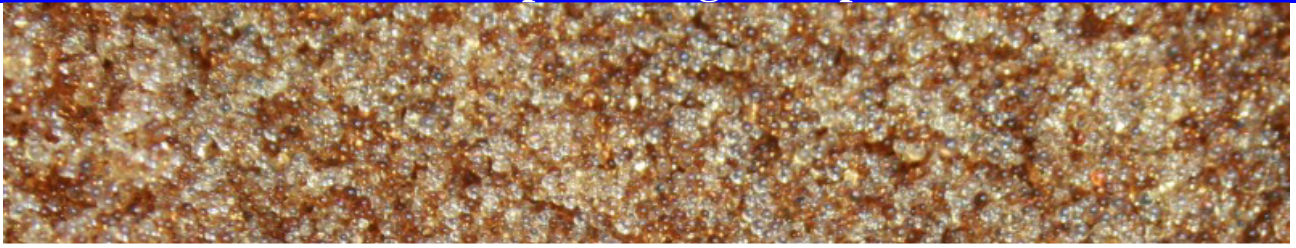
1 liter 593-001
 25 kg 593-025

Technical data:

Active ingredient:Clinoptilolite
 Content: 86 ... 94%
 Exchange capacity: min. 70 mol/kg
 Particle size:8 ... 16 mm

Bulk density:approx. 900 g/l

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⁺, OH⁻ 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

Drying pearls for reducing the air humidity



- ideal for drying air
- dry air will enlarge the power of ozone generators
- with humidity indicator (deep blue = 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

CO₂-Adsorber for raising the pH of a sea water aquarium



- removes carbon dioxide from the supply air of skimmers
- at the end of the capacity the material turns slightly violet
- not regenerable

Technical data:

Form:hemispheres
Bulk density:0.83 kg/l
Temperatur range:10...40°C
Pressure range:500...1200 hPa
Relative required humidity: 20...100%

Order number:

1 litre CO2-X-Globuli-010
5 litres CO2-X-Globuli-050

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