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Item number: 857114  
Product designation: Crushed olivine coated with chromium-poor cement

## DANSAND® Blueguard

# An effective, all-natural filter material

## Description

DANSAND® Blueguard is an all-natural filter material which effectively and permanently absorbs large amounts of heavy metals and phosphorus compounds from contaminated water.

Blueguard acts as an adsorption filter and is especially suitable for the manufacture of flow filters and contact filters for areas where there are requirements for the quality of the water before it is infiltrated or discharged to the recipient.

### NATURAL ACTIVE AGENT

The material is a fine powder of crushed olivine, which is extracted in Åheim in Norway and subsequently bound together with chromium-poor cement to a granulate.

Experiments in Denmark and Norway have shown that Blueguard has a very large adsorption capacity: between 95% and 99% of all dissolved heavy metals and phosphorus compounds are removed from the contaminated water.

Olivine, which is the active substance in Blueguard, has a highly reactive surface when crushed. Unlike other adsorbents such as clay and zeolite, it binds heavy metal ions and phosphates permanently to its surface - without later leaching.

### BENEFITS OF DANSAND® BLUEGUARD

- Natural minerals
- Binds up to 99% of all dissolved heavy metals permanently
- Also binds at low pH and in high saline solutions
- Provides a basis for simple, robust filter systems with a long service life
- Can be disposed of as inert waste - there are no charges for disposal. Local variations to legislations may apply.

### A SAFE AND SIMPLE METHOD

With Blueguard, it is possible to create simple, reliable filter systems with a long service life and very limited maintenance. No special equipment or staff is required to regulate and monitor the facilities, and once they need to be decommissioned or renovated, the used Blueguard can be disposed of as inert waste. There is no risk of the bound heavy metals being released again.

Blueguard can be used in a large number of areas where there is a risk of pollution with heavy metals, such as roads, industrial process wastewater, artificial turf pitches and drainage from recycling sites. Blueguard is also suitable for rainwater that has been in contact with roofs and gutters of lead, zinc and copper.

# Specifications

## DECLARATION

DANSAND® Blueguard is a fine granulate consisting of crushed olivine and cement with low chromium content.

## STORAGE

Dry and with no risk of contamination

## DELIVERY

1200 kg big bags

## ENVIRONMENTAL INFORMATION AND DISPOSAL

The type of adsorption in DANSAND® Blueguard is a chemical adsorption, which means that there is a strong chemical bond that is difficult to break. The heavy metals are permanently bound to the olivine and there is no subsequent leaching.

In Denmark, used Blueguard is therefore classified as inert waste and there are no charges associated with the disposal of Blueguard. Check your local legislation.

## DANSAND® BLUEGUARD PHYSICAL PROPERTIES

Grain size	1-3 mm
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# Manual

## APPLICATION

DANSAND® Blueguard purifies contaminated water of dissolved heavy metals and phosphates and is used as an adsorption filter in flow and contact filters via infiltration systems, delay basins and wells.

Estimated filter size = flow X residence time

The standard residence time is 15 minutes. For a flow of 5m<sup>3</sup>/h (approx. 1.5 l/sec, 90 l/min) 5 tons of Blueguard must

## TEST RESULTATS AND REPORTS

The cleaning effect of DANSAND® Blueguard has been documented both in the laboratory and in practice.

Danish and Norwegian experiments with phosphorus and heavy metals - such as copper, cadmium, nickel, zinc, chromium and barium - show that DANSAND® Blueguard has a cleaning effect between 95% and 99%. The tests were performed on both test plants and on commercial plants in operation.

## CASES

[See how](#) Holbæk Sportsby, with the help of DANSAND® Blueguard, established a single filter system that cleans zinc.

be used. This will take up approx. 3 m<sup>3</sup>.

Estimated filter life = heavy metal concentration X  
accumulated flow

Conservatively estimated, Blueguard can adsorb 2.5 kg of heavy metal per ton Blueguard. 5 tons of Blueguard (above plant) can adsorb 12.5 kg of heavy metal lasting to 25,000 m<sup>3</sup> of water with a heavy metal content of 500 µg / l. From experience, calculated lifespans of 2 to 8 years are most often obtained.

Specific verification tests and calculations must always be performed to estimate filter size and service life.



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Variants: Crushed olivine coated with chromium-poor cement