

Polonite® - reactive filter media for phosphorus removal and recovery

Polonite is a natural calcium silicate with excellent capabilities of capturing phosphorus from both sewage water, and runoff water from farmland. Polonite also makes it possible to recycle the vital nutrient by returning it on productive farmlands. As an example, Polonite achieves a phosphorus reduction of 100% in sewage water for new installations and over 90% if employed for a longer period* of time. The function is proven by over 20 years of research at The Royal Institute of Technology in Stockholm (KTH) and through over 6000 installed filter solutions for private sewage.

Owing to its large surface area, Polonite also possesses excellent bacterial removal abilities. 500 kg of Polonite is comparable to 40 tons of regular sand in terms of surface area and additionally both biofilm and an initial high pH-level acts bacterial reductive. Tests have shown an initial elimination of 99,9% of E-coli and coliforms. Also, the high pH in the treated outgoing water prevents acidification of the surrounding environment.

After a brief period of drying, saturated Polonite can be used as an excellent fertilizer without further after-treatment. The captured phosphorus is slowly released - at the same pace plants absorb phosphorus (compared to the chemical flocculants). Furthermore, the filters also contain calcium and silicon, which are important nutrients for soil and plants.

Saturated Polonite from treatment plants does not contain any quicksilver, cadmium, and minimum bacteria and can be distributed directly on farmlands easily with traditional tools and spreaders. The dosage depends on the conditions of the soil. (Certification may vary between countries.)

**The phosphorus reduction depends on the phosphorus concentration in the water, of the water flow, and the age of the filter. A treatment plant is normally constructed to uphold a high reduction during a period of 2-4 years. The reduction pace decreases slowly during the plants' life cycle.*

Safety

Polonite® is a material classified under category 1 without chemical, fire, or environmental risk. However, Polonite® can potentially cause skin or eye irritation when in direct physical contact with it. Wear proper safety equipment when handling and wash hands carefully afterwards. We recommend usage of safety gloves and safety goggles when working with material of a high pH such as Polonite®. Please take the necessary precautions against inhaling dust when working with dry Polonite®.



Polonite® – the natural choice

- A natural occurring mineral treated to enhance its capabilities.
- Used mainly for phosphorus reduction in waste water treatment plants and facilities.
- Saturated Polonite® can be distributed in the soil without any after-treatment, and recycles phosphorus by returning it to plants.
- Strong capability to reduce bacteria and odour.

Application areas

- Phosphorus reduction in both small and large waste water treatment plants
- Phosphorus reduction in runoff water from farmland and industries
- Fertilizer and calcium source for productive soil

Features Polonite®

Size of pellets	2-6 mm
Adsorption capability P	up to 12 %*
Porosity	45 %
Dry density	730 g/dm ³
Initial pH outgoing water	>12

**Theoretical binding. Depends on design and usage.*

Polonite® phosphorus filter for sewage plants up to 50pe is CE certified according to EN 12566-7:2013 standards.