BIOVASE

IDRABEL
ENVIRONMENTAL BIOTECHNOLOGY

BIO VASE

A SIMPLE AND ECONOMICAL SOLUTION TO THE SILTING UP OF LAKE, RIVER AND HARBOUR

BIO-VASE is based on the biofixation technology, which involves fixing natural non-pathogenic microorganisms on mineral supports. Idrabel has selected specific mineral supports for each type of microorganism used. Thanks to this exclusive technology, microorganisms are easily stored and transported. They reactivate in water, this in addition to enable a longer life-span permits to better degrade organic matter.

BIO-VASE allows a considerable reduction in the height of silt and sludge deposits in ponds, rivers, canals and harbours. Our references show a reduction of up to 50% of sludge deposits. The process on which the treatment is based is the biological degradation of organic matter through the application of selected microorganisms that progressively break-down and dissolve the organic material accumulated.

One of the main strengths of **BIO-VASE**, in addition to its attractive price as compared to traditional methods, is that it is extremely user-friendly. Indeed, our method does not require any mechanical equipment and does not cause the slightest damage to the areas surrounding the waters being treated.

BIO-VASE is an ecological product, which breaks down silt, in contrast with traditional methods, which only displaces it.

By reducing the quantity of organic material, the application of our technology enables to restore the ecosystem balance. In fact, the use of **BIO-VASE** eradicates eutrophication events, drastically decreases the production of algae and the growth of invasive aquatic plants, and eliminates the production of repulsive odours.

BIO-VASE also allows for a significant reduction in the quantity of suspended solid matter, which improves the clarity of the water body treated.

An efficient and environmentally-friendly approach.

Following the study of the water body, treatment is carried out in two phases separated by several months, and is structured so that the distribution of the product is as homogeneous as possible. The quantities required are of the order of 1,5/3,0 tonnes of product by application and by hectare of surface area (this figure can vary depending on the amount of sludge to degrade). The treatments are preferably carried out in in spring or autumn.

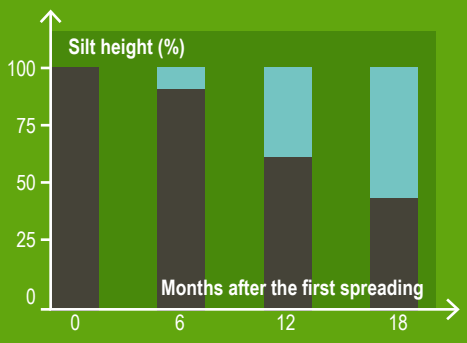
The quantities of product applied are calculated thanks to different parameters: the height of the sludge, the total surface area, the physic-chemical qualities of the water and the biological aspects of the ecosystem.

BIO-VASE is easy to handle and does not require special equipment to be released into the water.

BIO-VASE is a powder non-soluble in water, whose granulometry varies according to the characteristics of the water body to be treated.

The use of **BIO-VASE** significantly reduces the costs of dredging of ponds, canals, rivers and harbours compared to traditional techniques. In order to obtain the maximum benefit from the use of **BIO-VASE**, technical control and control measurements are guaranteed and included in the price.

Average **REDUCTION IN SILT LEVELS OF 50%** over 18 months.



A 25 Kg bag of BIO-VASE breaks down up to 80 m³ of silt over 18 months.

BIO-VASE

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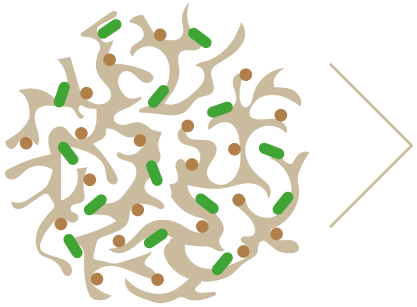
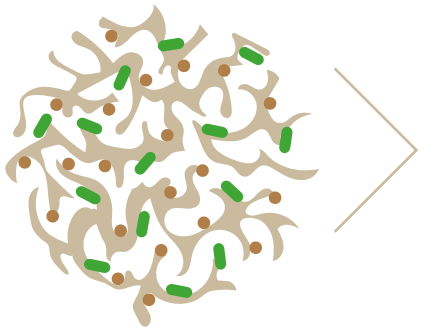
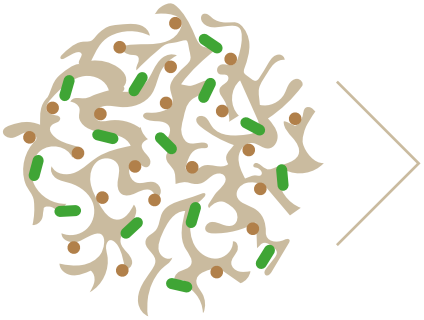
- Microorganisms.

Bio-fixation:

- Porous mineral support.
- Enzymes and oligo-elements.







IN-SITU DEGRADATION OF SLUDGE AND ORGANIC SEDIMENTS

– 80% reduction of the organic part of sediments.
– Increased water height and consequent increased navigability.
– Improvement of water flow.
– Reduction of the presence of rats and insects.

IMPROVEMENT OF BIOLOGICAL, PHISICAL AND CHEMICAL QUALITY OF WATER

– Reduction of water turbidity.
– Increased concentration of dissolved oxygen and reduction of eutrophication events.
– Biological technology with no negative impact on fauna and flora.
– Supports biodiversity.

ELIMINATION OF H_2S PRODUCTION

– Elimination of odours.

POSSIBILITY OF TREATMENT OF EVERY ORGANIC CONTAMINANT

– Halogenates, surfactants, phenols, petroleum derivatives, PCBs, organic sulfur, organic nitrogen, fats, hydrocarbons, dioxins, cyanides, cresols, chloro-phenols, cellulose.

DCO, SS, REDOX

– Increased dissolved O_2 and SS reduction.

info@idrabel.be
www.idrabel.com

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+32 10 81 37 88