

BIOCOL



IDRABEL
ENVIRONMENTAL BIOTECHNOLOGY

BIOCOL

TECHNOLOGY AT THE SERVICE OF THE ENVIRONMENT

A pro-active solution for the maintenance and cleaning of sewers.



BIO-COL is a powder non-soluble in water, with variable granulometry, and supplied in 25-kg bags. The product is based on the biofixation technology, which involves **fixing** natural non-pathogenic microorganisms **on** mineral supports. **Every** support is specifically selected for each type of microorganism. 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 counter sludge pollution.**

The use of BIO-COL enables to break down sludge and fatty deposits in sewer systems, drains and grinder pumps. The product, whilst preventing the silting up of sewer systems, also increases the evacuation capacity of said systems (which is essential in order to avoid problems during floods). **BIO-COL** is extremely easy to use and does not require any additional equipment like in mechanical cleaning systems, which

can often be bulky and expensive. Whilst eliminating sludge and fatty deposits, the number of rats and insects can be substantially reduced.

In addition, by **making** the pollution load more easily treatable, it allows for a drastic reduction in management costs for **wastewater** treatment plants.

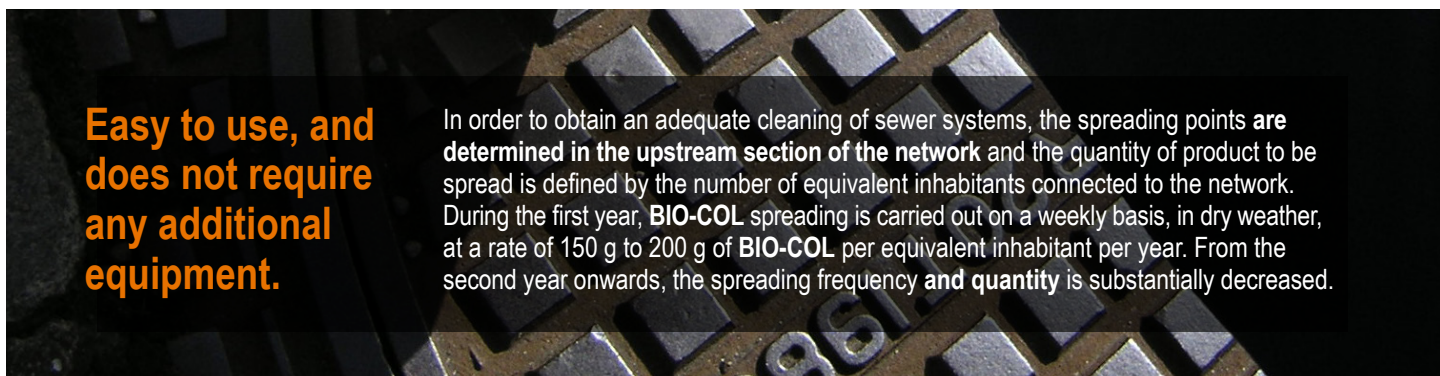


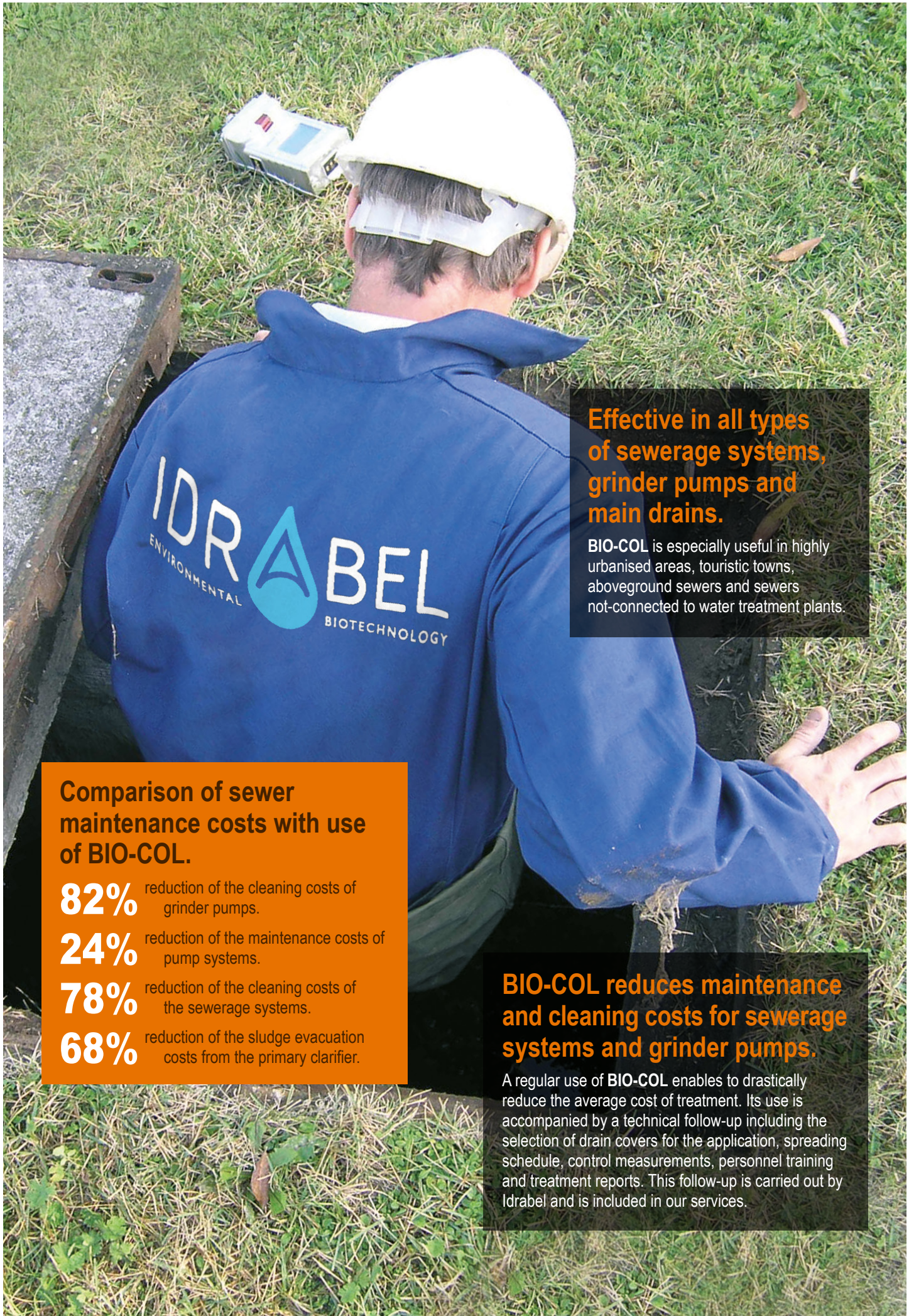
One of the main advantages of **BIO-COL** is the elimination of repulsive odours associated with the formation of H_2S and organic nitrogen. Through this process, it also prevents equipment corrosion and increases the work safety of personnel.

Through the **selection** of specific microorganisms, **BIO-COL** can be adapted to a vast range of situations, from domestic pollution involving organic matter to pollution caused by substances derived from crude oil.

Easy to use, and does not require any additional equipment.

In order to obtain an adequate cleaning of sewer systems, the spreading points **are determined in the upstream section of the network** and the quantity of product to be spread is defined by the number of equivalent inhabitants connected to the network. During the first year, **BIO-COL** spreading is carried out on a weekly basis, in dry weather, at a rate of 150 g to 200 g of **BIO-COL** per equivalent inhabitant per year. From the second year onwards, the spreading frequency **and quantity** is substantially decreased.





Effective in all types of sewerage systems, grinder pumps and main drains.

BIO-COL is especially useful in highly urbanised areas, touristic towns, aboveground sewers and sewers not-connected to water treatment plants.

Comparison of sewer maintenance costs with use of BIO-COL.

- 82%** reduction of the cleaning costs of grinder pumps.
- 24%** reduction of the maintenance costs of pump systems.
- 78%** reduction of the cleaning costs of the sewerage systems.
- 68%** reduction of the sludge evacuation costs from the primary clarifier.

BIO-COL reduces maintenance and cleaning costs for sewerage systems and grinder pumps.

A regular use of BIO-COL enables to drastically reduce the average cost of treatment. Its use is accompanied by a technical follow-up including the selection of drain covers for the application, spreading schedule, control measurements, personnel training and treatment reports. This follow-up is carried out by Idrelabel and is included in our services.

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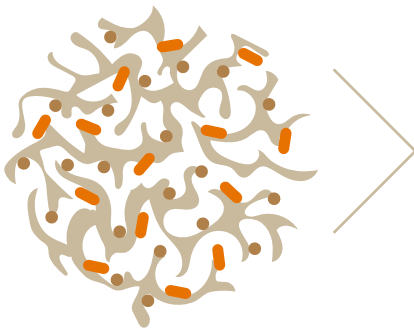
BIO-COL

Microorganisms.

Bio-fixation:

Porous mineral support.

Enzymes and oligo-elements.



DEGRADATION OF SLUDGE AND FAT DEPOSITS

- 80% reductions of sludge and fat deposits.
- Drastic reduction of network maintenance and cleaning costs.
- Increased water flow.
- Decreased flood risks.
- Lower presence of rats and insects.



ELIMINATION OF H₂S PRODUCTION

- Odour elimination.
- Increased work safety.
- Reduction of network corrosion.



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 O₂ and SS reduction.
- Nitrification of organic nitrogen.

