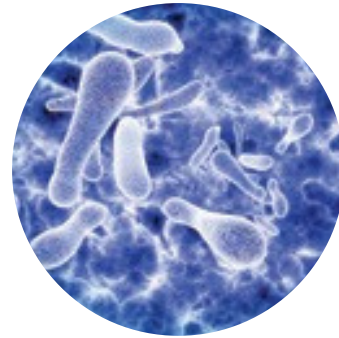
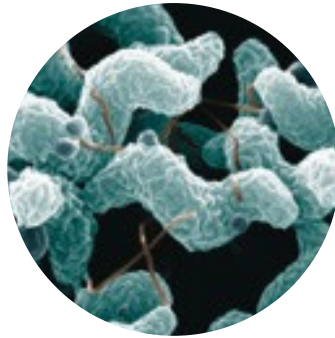




Ecological waste water cleaning



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About us

Natural way without chemical burden that leads to a mutual satisfaction

We are a company engaged in ecological cleaning of all kinds of waste water. Baktoma was established in Slovakia in 2007, based on excellent 15-year experience with the production and sale of bacterial enzyme mixtures – complex and environmentally friendly solution to your waste water management.

Our bacteria are used for protecting the whole waste water system and the scrubbers. As our products are purely ecological and work on biological principles, they do not destroy the pipes and structures of the waste water systems like chemicals such as sulphates or chlorine. The additional benefit of our products is extension of life of the entire waste water system, liters in cleaners, containers and other system equipment.

Our main priorities

1. a satisfied customer who will be happy to come back with the production of exclusively Slovak bacterial preparations on a purely
2. natural basis without chemistry
3. to clear our environment from chemical loads
4. development and testing of new products (we work in cooperation with
5. universities such as Mendel University in Brno, or the Slovak
6. Agricultural University in Nitra, as well as specialists in the field of surface water)
7. high quality and excellent efficiency is a must (big concentration
8. of natural bacteria in each of our products)
9. low prices thanks to direct sales without any other intermediaries or hidden fees
10. an unrivalled ratio of price-quality on the Slovak and Czech markets
11. professional advice on customer's problems with the effort of designing
12. a possible solution

How does it work?

Bacterial enzyme preparations are a mixture of selected natural bacterial cultures, enzymes and nutrients that enhance and accelerate nature's own biodegradation processes. In the natural environment, both bacteria and enzymes (these are the catalysts that decompose macromolecules) play an important role in the process of cleavage and decomposition of organic substances.

Bacteria produce enzymes that are indispensable for the metabolism of the nutrient source (in our case of organic waste) into energy necessary for the further growth of the living organisms. Enzymes are an instrument of that phase of metabolism in which complex compounds are cleaved to simpler ones. This cleavage accelerates the process of transforming the nutrient source into available and easily digestible batches for bacteria. In a relatively short time, after the contact of specially selected bacteria with an aqueous environment containing organic waste, spores of bacteria begin to transform from a dormant state into the active state, while producing specific enzymes and decomposing or eating the organic waste present in the source.

Applied microorganisms are capable of exponential growth (their number is doubled approximately every thirty minutes). The by-products of this bacterial enzyme activity are H_2O and CO_2 .

01

Cellulase

a complex of bio-enzymes decomposing cellulose.

02

Amylase

a complex of bio-enzymes decomposing starchy organic compounds and hydrocarbons.

03

Protease

a complex of bio-enzymes decomposing different proteins.

04

Lipase

a complex of bio-enzymes decomposing fats and vegetable oils.

05

Urease

a complex of bio-enzymes decomposing urea.

06

Xylanase

a complex of bio-enzymes decomposing plant matter.

07

Esterase

a complex of bio-enzymes decomposing fats.

Used bacterial concentrates are not genetically manipulated or altered they are naturally present in soil and water and carefully selected because they are:

- 01 Safe, stable, non-pathogenic and non-toxic.
- 02 Capable of growth in the presence of oxygen or without it.
- 03 They are a strong producer of enzymes (they do not contain salmonella or listeria).

Main advantages
of using bacterial preparations:

- 01 Liquidation of vegetable and animal fats.
- 02 Significant reduction of contamination by energetic materials (EMs) and ammonia.
- 03 Disposal of solid and dissolved substances in tanks.
- 04 Destruction of nitrates of any type.
- 05 They greatly reduce odours.

From a microbiological point of view, bacterial preparations are harmless
They do not contain coliform bacteria, faecal coliform bacteria, enterococci, fungi and yeasts.

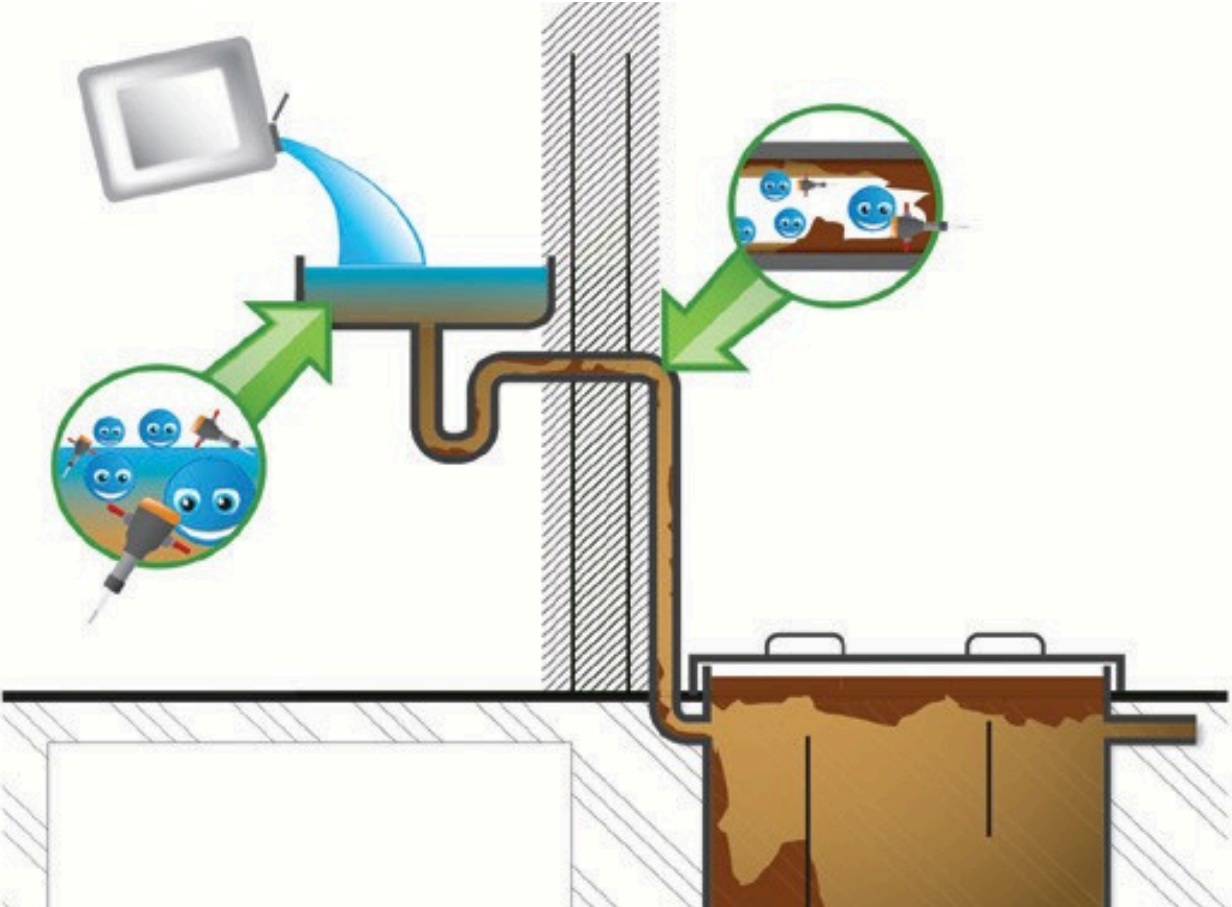
One gram contains approximately:

01 12,4 . 10⁹ cultivable bacteria

02 9,6 . 10⁹ mesophilic bacteria

03 9,8 . 10⁹ sporulating bacteria

72% of bacteria have growth potential in anaerobic conditions. Another important feature is the use of carbohydrates (carbon), a group consisting of a wide variety of compounds that are generally known as "sugars".



Characteristic of bacterial enzymatic mixtures

BACTERIA

Bacteria are the most widespread group of organisms in the world. They can be found in soil, water, air, on the surface and within the multicellular organisms. Some species, according to the research, are able to survive in space, in vacuum, or at temperature of -270 degrees Celsius.

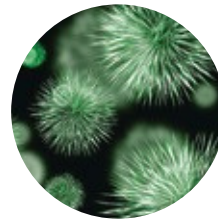
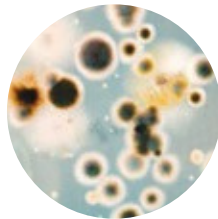
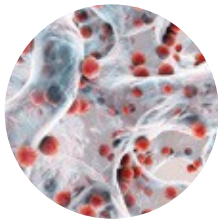
In their lifecycle, so-called sporulating bacteria create spores (a unit of sexual or asexual reproduction that may be adapted for dispersal and for survival, often for extended periods of time, in unfavourable conditions). Some bacteria (clostridia, bacilli) are able to create endospores (a dormant, tough, and non-reproductive structure), which are created inside of the cell. In endospores, bacteria survive tough conditions, and later, under more favourable circumstances, they are able to sprout in vegetative cells.

Bacteria produce enzymes.

ENZYMES

Enzymes are proteins, whether simple or compound, which act as catalysts for chemical reactions, while determining the nature and speed of these reactions. A summary of all enzyme reactions that convert substances and energies into cells and living organisms is called metabolism.

One of the very important functions of enzymes that directly depends on the life and growth of organisms is the ability of various enzymes to digest and decompose various complex molecules into smaller strata that the organisms are able to digest and thus become the source of energy for their further growth.



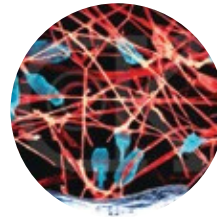
BACTERIAL-ENZYMATIC MIXTURES

By the term **bacterial-enzymatic mixture**, we mean a concentrate of specially selected spores and endospores enriched by target-grown strains of original soil bacteria that possess certain desired characteristics, such as ability to survive and multiply in a certain pH environment; or the ability to increase the production of a particular enzyme. The mixtures used by ProEco are characterized by a significant concentration of microorganisms. In some concentrates there are up to 5×10 CFU /per one gram of mixture (CFU - colony forming unit).

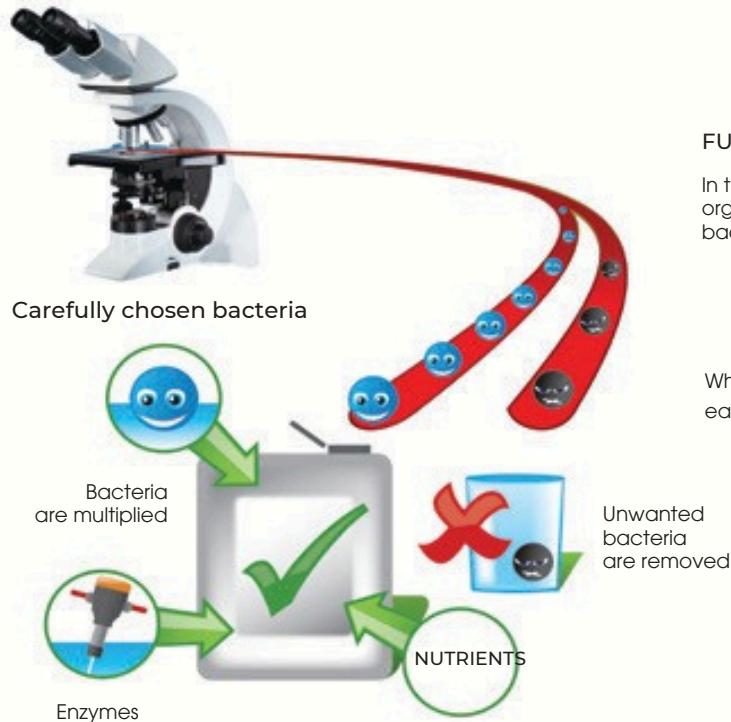
Individual mixtures and their combinations form the basis for the national commercially available products, which are depending on their composition directed to the practical solution of certain particular problems, such as degradation of fats in a certain environment; homogenization of manure; reduction of ammonia and odour level in general; wastewater treatment; excrement degradation; or leakage of pipelines.

After putting the mixture into an aqueous environment containing organic waste, spores begin to come to life in a short time; they produce specific enzymes, and feed with the organic waste present in the water. Applied microorganisms grow exponentially (they are doubled every 20-30 minutes). The by-products of this bacterial enzyme activity are H₂O and CO₂.

It is important to emphasize that all strains of bacteria used in our bacterial-enzymatic mixtures are non-pathogenic and that they are always and exclusively related to strains of naturally occurring soil bacteria that have been selected for a certain specific ability. These strains are by no means genetically altered or modified.



Products production

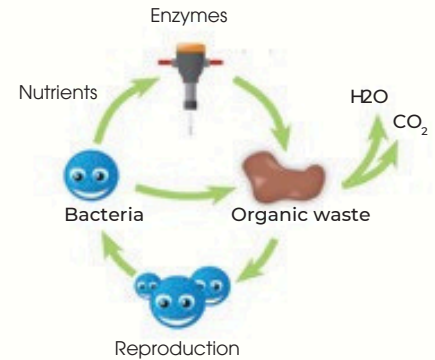


FUNCTIONAL CYCLE

In the environment with organic waste and nutrients bacteria:

Produce enzymes
Eat waste
Reproduce

When the organic waste is eaten bacteria naturally die



The MAIN FOCUS of ProECO s.r.o.



Households



Sewage
treatment plants



Lakes and ponds



Hotels
and restaurants



Agricultural



Manufacturing
and industrial sphere



Public institutions

Possibilities of business cooperation, or why work with us

Within the enlargement of the number of regions of its operation, PROECO s.r.o. is looking for partner companies with a common focus on ecological treatment of waste and waste water.

- | | | | |
|----|---|----|--|
| 01 | Exclusive representation for the agreed state (s) and industry (s) | 05 | Attractiveness of products whose main added value is environmental protection |
| 02 | Cooperation directly with the manufacturer | 06 | The price of products |
| 03 | Possibility to use the ACTIVSAN brand or create a private brand of your company | 07 | Full service provided by the manufacturer, very fast start of cooperation with handover of full KNOW-HOW |
| 04 | A comprehensive product line which addresses the most serious problems in the field of waste and wastewater treatment | | |

Ecological waste water cleaning



Households

ACTIVSAN^S eptic^{100g / 500g}



New bio-enzymatic remedy used for disposal of organic waste in septic tanks and pipes.

Continuous purification of septic tanks and pipes

Dissolves solid organic waste into liquid

Saves your money from frequent chemical cleaning of septic tanks

Prevention from accumulation of sediments and sludge

Removes an unpleasant smell from the septic tank and cesspool

ACTIVSAN

Siphon - Pipe -Waste 100g / 500g

Natural bacteria - the enzymatic product used for liquefaction of organic impurities and sediments in siphons and waste pipes with the function of odours removal.

-
- Cleans siphons and pipes
 - Does not damage piping systems and their seals
 - Saves money for plumber
 - Featured product for homes, apartments and cottages
 - Prevents from clogging (if used regularly)
 - Remove odours



ACTIVSAN

Fat and Grease trap 100g / 500g



New bio-enzymatic remedy used for disposal of fats in your waste piping and fat traps, including odour removal.

Reduces the cost of removing and disposing of fat waste

Releases clogged waste and grease traps

Removes odour

Eliminates the formation of fat deposits

Fat traps are working again

ACTIVSAN

Domestic Wastewater Treatment 100g / 500g

Natural bacteria - bio-enzymatic remedy used for disposal of organic waste which helps to secure the smooth operation of your sewage treatment plant.

- Optimal smooth running of the house wastewater treatment plant
- Extends life of your STP
- Helps to restore the function of STPs after using acids and leaches
- Reduces the amount of sludge and sediment
- Removes odours and foaming
- Simple and safe use



ACTIVSAN

Outhouse toilet/Latrine 100g / 500g



Natural bacteria - the enzymatic product used for disposal of excreta with the function of removing the odours.

Complete dissolution of dry and solid excreta

Dissolves toilet paper

Significantly reduces the cleaning costs

Decent environment for your needs

Removes unpleasant odours

Purely natural solution, no chemicals needed

ACTIVSAN

Compost 100g / 500g

Natural bacteria - the enzymatic product used for accelerating the maturation of garden compost with the preservation of all its nutrients and fertilizing values.

- Maintains the nutritional value of the compost
- Massively reduces the composting process (3 months)
- Helps to restore the function of STPs after using acids and leaches
- Suitable for all plant and domestic bio-waste
- Good-quality compost = no chemical fertilizers
- Reduces odours and repels insects



ACTIVSAN

Ponds 100g / 500g



Natural bacteria - the enzyme product used for maintaining the ponds and lakes clean especially without algae, green water, and organic pollution caused by fish or other animals.

Biological balance within the first few weeks of usage
Removes algae, green water and organic sediments from the lake
Significant reduction of chlorophyll A
Removes Cyanobacteria and phosphorus
Increases concentration of oxygen in ponds and lakes
Clean and clear ponds and lakes

100% safe for animals

This product is also available in

variant:

- a Activsan Winterize Ponds 100g / 500g
(Seasonal product used before winter)
- b Activsan Start Ponds 100g / 500g
(Seasonal product with use after winter, during spring)

ACTIVSAN

Aquariums 100g / 500g

Natural bacteria - an enzymatic product used for tanks and aquariums to clean them from organic pollution.

- Biological balance within the first few weeks of usage
- Removes algae, green water and organic sediments from aquariums
- Significant reduction of manual cleaning process
- Suitable for all plant and domestic bio-waste
- Removes the green water from aquariums
- Keeps your aquarium clean longer
- Clean and clear aquariums including glass

100% safe for animals



ACTIVSAN

Spots- Smell- Sweat 500 ml



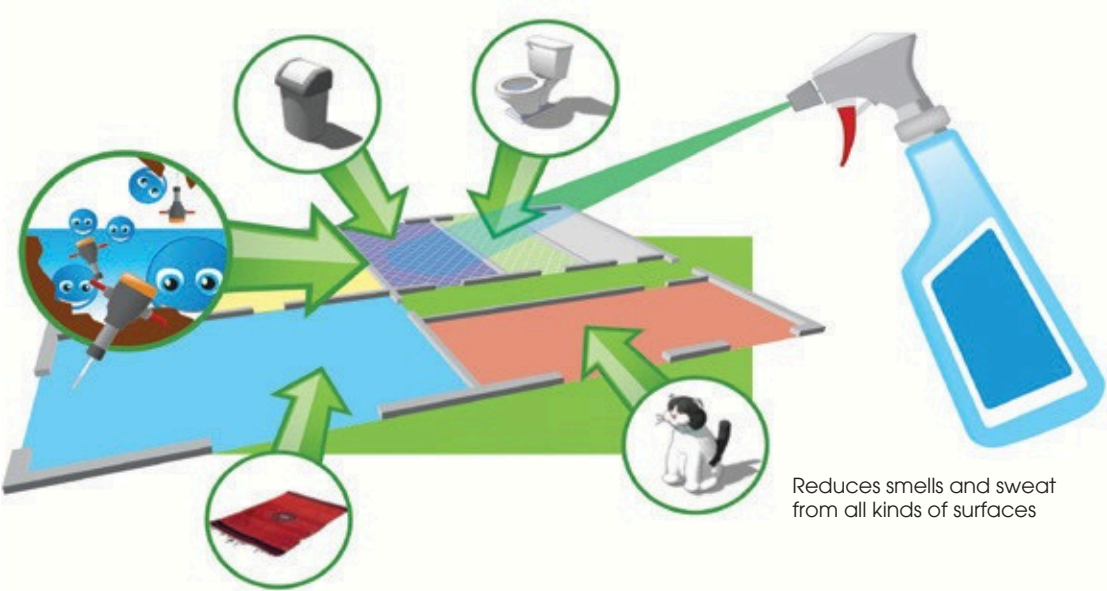
Natural bacteria - an enzymatic product used for elimination of organic spots and odours from carpets, upholstery, shoes, or sport equipment.

- Removes all stains from textile materials
- Removes all organic odours
- Removes urine stains and odours
- Cleans not only on the surface but decomposes 100% of the entire organic pollutant inside of fabrics
- Great to keep your house clean when you own pets
- Reduces smells and sweat from your boxing or hockey gloves

100% natural product without chemistry

Ensuring colour stability. Easy to use.

Great to use in cinemas, theatres, waiting rooms, hotels, restaurants, offices, sports facilities, hospitals, etc. and wherever there are stains from food and drinks.



Reduces smells and sweat
from all kinds of surfaces

Ecological waste water cleaning



Lakes and ponds

ACTIVSAN

PTP PLUS 1kg / 5kg / 10kg



Within a few weeks, there is a biological balance in lakes and ponds Clean and clear lakes and ponds Significant reduction of organic sediments at the bottom of the lake/pond and in the water column A significant reduction of chlorophyll A, algae and phosphate concentration Increase of the oxygen content in lakes and ponds Preparation safe for animals (cannot be over-dosed)

ACTIVSAN

PTP PLUS 1kg / 5kg / 10kg

PTP PLUS is a mixture of bacterial spores, enzymes and nutrients necessary for the activity of microorganisms.

The effect of the preparation in lakes and ponds is the decomposition of organic sediments on the bottom of a lake, as well as in the water column using natural unmodified aerobic bacteria and facultative anaerobic bacteria with positive chemotaxis (bacteria can recognize the type of organic waste and decompose it). At the same time, there is a significant decrease in phosphates and chlorophyll A that leads to elimination of algae, phosphates and water-based turbidity.

On the contrary, the oxygen level increases. Regular use of PTP PLUS results in the reproduction of bacteria and continuous cleaning of lakes and ponds.

ACTIVSAN PTP PLUS

Lake application



Before application



After application



Before application



Afer application

Ecological waste
water cleaning



Hotels and restaurants

ACTIVSAN

Eco Gastrolap 3kg



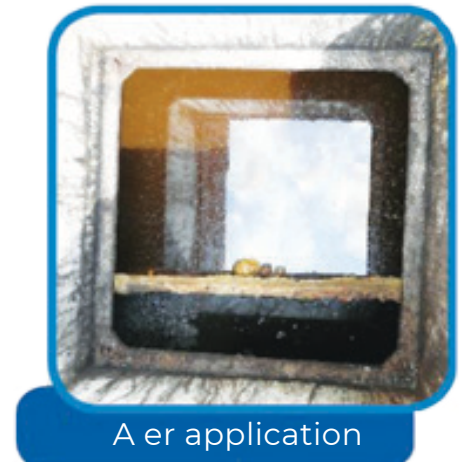
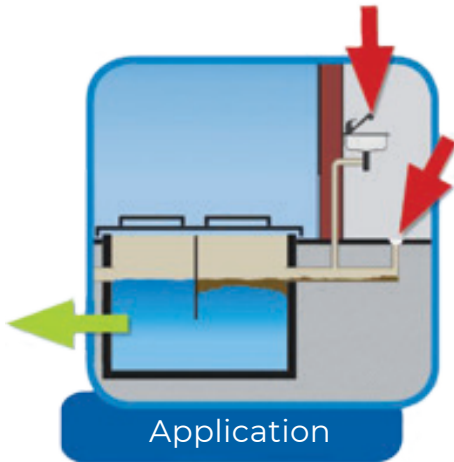
Natural bacteria for the disposal of fat and other organic wastes from traps and waste pipes in the production of cooked meals.

GASTROLAP is an environmentally safe, non-toxic, bacterial preparation designed to eliminate total fat, including other organic deposits in the waste piping and laxatives (optimum fatty acid function) in the production of cooked meals. The preparation utilizes natural and vivid bacteria and enzymes to remove grease deposits, which prevents back ow and sedimentation of plant or animal fats in traps with regular use. It is mainly used in restaurants, hotels and other facilities where meals are being prepared.

The preparation is harmless to human health and it does not damage waste piping.

Activsan Eco Gastrolap

Grease Trap application



Ecological waste water cleaning



Agricultural,
manufacturing
& industrial

ACTIVSAN

APD 900 4X 5kg / 10kg



New bio-enzymatic product used for homogenization of slurry & organic waste, removal of odour (ammonia), and destruction of crust from all agricultural & industrial wastes.

- APD 900 2X is fully compliant with the Goethebor Protocol, meets BAT technique
- It is recognized as a downsizing technology for implementing Good Agricultural Practice principles and also for implementing Integrated Pollution Prevention and Protocol (IPPC)
- Increases the amount of biogas in biogas stations
- Prevents foam formation, sedimentation of grease and solid organic matter

Removes odour from the digestate and significantly reduces the ammonia emissions by up to 38% (authorized measurement by an accredited work place of VÚZT Prague).

ACTIVSAN

APD BIO GAS 5kg / 10kg

New bio-enzymatic remedy used to optimize the performance of biogas stations (including WWTPs) and subsequent removal of odour from the digestate (stabilized material after fermentation).

- Multiplication of biogas production in biogas stations (including WWTPs)
- Organic fertilizer has better quality due to increased nutrient utilization
- Biomass is more homogeneous (does not form sediments in fermenters and storage tanks)
- It removes odour from the digestate and significantly reduces the ammonia emissions (authorized measurement by an accredited work place of VÚZT Prague)
- Eliminates the need to mix digestate in storage tanks (easier pumping)

APD BIO GAS is a mixture of bacterial cultures, enzymes, and nutrients necessary for the action of microorganisms, that support methanogenesis (an anaerobic process in which organic matter is degraded by microorganisms to form methane, carbon dioxide and DMDC).



ACTIVSAN

GTS PLUS 5kg / 10kg



New bio-enzymatic environmentally safe and non-toxic product designed to eliminate all grease deposits, maintain the waste piping, and optimize the activity of the fat traps.

- Effective at low pH (from 4.5)
- Excellent degradation of fats and other organic substances
- Minimizes odour
- Reduces BOD, COD and NL (by 20-50%)

ACTIVSAN

HCT PLUS 5kg / 10kg

New bio-enzymatic product designed for the decomposition and disposal of petroleum hydrocarbons.

- Rapid removal of petroleum substances from pits, tanks, traps, etc.
- Continuous cleaning of petroleum hydrocarbon flow systems.
- Liquidation of other solid and dissolved organic substances.
- Cleaning of contaminated soil with petroleum substances
- Removal of petrol, naphtha, oils, petrolatum, benzene, toluene, xylene, ethylbenzene and other from water surfaces
- Significant reduction of the liquidation of petroleum hydrocarbons costs



Possibilities of business cooperation, or why work with us

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01

Exclusive representation for the agreed state (s) and industry (s)

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Attractiveness of products whose main added value is environmental protection

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Cooperation directly with the manufacturer

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The price of products

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Possibility to use the ACTIVSAN brand or create a private brand of your company

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Full service provided by the manufacturer, very fast start of cooperation with handover of full KNOW-HOW

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A comprehensive product line which addresses the most serious problems in the field of waste and wastewater treatment