



# ProECO

Ecological waste water cleaning

## Your first step towards your **ProECO LIFE**, that **FREES** your environment from chemical loads

**Engaged in** ecological cleaning  
of all kinds of waste water **since 2007.**

**Based** on an excellent 15-year experience with  
the production and sale of bacterial enzyme mixtures  
we offer complex and environmental friendly solution  
to your waste **water management.**

**ProECO s.r.o.** is the producer, seller and distributor  
of bacterial enzymatic **products used mainly in:**

- Agriculture
- Manufacturing and industrial sphere
- Sewage treatment plant
- Hotels and restaurants
- Households
- Public institutions
- Lakes and ponds

### **ProECO s.r.o.**

Priemysel'na 1/2034  
031 01 Liptovsk'ý Mikuláš  
Slovakia

obchod@activan.sk  
+421 948 022 132

[www.activan.sk](http://www.activan.sk)

## 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  $5 \times 10^8$  CFU /per one gram of mixture (CFU - colony forming unit).

**Individual mixtures** and their combinations form the basis for the final 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 H<sub>2</sub>O and CO<sub>2</sub>.

**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.