

Water Tech

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Microbiology of Water Tech - Roebic Natural - Biodegradable Bacteria to Clean Grease Traps, Drains, Septic Tanks, and More

Bacteria are living, single cell organisms that inhabit every environment on Earth. During their life cycle, bacteria feed by producing enzymes that break down large food molecules into smaller pieces which are then absorbed by the cell. These nutrients are necessary to maintain all aspects of cell function and reproduction.

Some bacteria require oxygen to live and are called **aerobic** bacteria. Others live without oxygen and are **anaerobic**. Still others can live in low oxygen, high nitrate environments. Residential septic systems are the most common **anaerobic** sewage systems, and home cesspools are the most common **aerobic** systems. Most drain, trap and plumbing systems are also **aerobic** environments.

Bacteria also have various requirements for temperature and pH (acidity or alkalinity). They produce their enzymes in response to these conditions as well as the type of food available to them. WATER TECH - ROEBIC's bacteria live in very wide temperature and pH ranges, and produce many enzymes, making them useful in treating wastewater. Some of the enzymes produced are **proteases** which degrade proteins, **lipases** that degrade fats and greases, starch degrading **amylase**, and **cellulase** which breaks down cellulosic structure in paper and plant tissue.

The process of adding bacteria to enhance the natural biological degradation of wastes is called **bioaugmentation**. It is one of the oldest, yet newest pollution fighting tools.

WATER TECH - ROEBIC bacterial products are bioaugmentation products. When a WATER TECH - ROEBIC bacterial product is applied to the environment the product was formulated for, several things happen.

The bacteria begin to adapt to the specific conditions of temperature, pH, and waste composition. After a short time each bacterial cell begins to produce enzymes to start the process of degrading a food source and obtaining its nutrients. Soon the bacteria begin to reproduce rapidly, manufacturing more and more enzymes and degrading more and more organic matter. When the process of waste degradation happens faster than the addition of new waste, the levels drop.

Whether a WATER TECH - ROEBIC product is added to a septic tank, grease trap, wastewater treatment facility or a sink drain, the process is the same. Sludge is reduced in the septic tank, grease accumulates less in the grease trap, wastewater is more effectively treated, and the sink drains better and does not clog.