Bacta-Pur®

The Natural Solution
when only the best will do

Application Bulletin

ab05.10

Sludge Reduction in Waste Water Treatment © 2010

ECOPROBIOTICS®, of the Bacta-Pur® System, are beneficial communities of natural bacteria, which have been on earth for millions of years and have been selected for their synergistic ability to biodegrade pollutants and to improve water quality. ECOPROBIOTICS® increase biodiversity. Just as people take yogurt for its' probiotic ability to assure the presence of the optimal community for digestion and immunity, ECOPROBIOTICS® improve ecosystem health. EVERY PRODUCTION of Bacta-Pur® products is analyzed and cleared for shipment ONLY after passing all performance tests and being CERTIFIED PATHOGEN FREE using techniques from the food industry. ECOPROBIOTICS® are purely natural and beneficial. They NEVER contain added chemicals such as surfactants, emulsifiers or enzymes…, nor do they contain genetically modified (GMO) or deliberately mutated organisms. ECOPROBIOTICS® are safe and beneficial. Disease causing organisms are never used, as others do or permit.

Summary

SYMPTOMS	TREATMENT BENEFITS
• systems unable to handle all solids produced	• greatly reduce sludge synthesis
• expensive sludge handling and/or disposal	• reduce chemical & other operating expenses
• capital expense for dewatering or digestion equipment	• avoid or delay major capital expenses
• difficulty handling unstable sludge	• stabilize sludge, facilitate dewatering
• sludge excess, reduced HRT and WWTS performance	• reduce sludge and improve plant performance

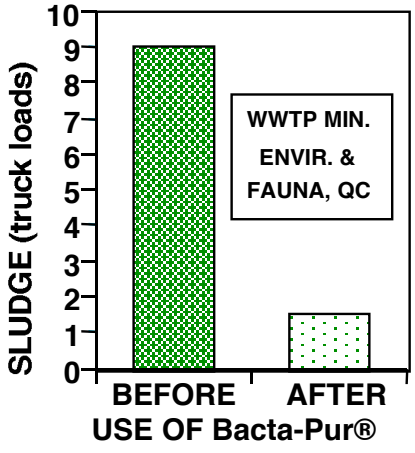
Requirements for Sludge Reduction and Why Excessive Sludge Production is a Common Problem in WWTPs

Efficient sludge reduction requires specific organisms for proteins, others for fat and still others for carbohydrates and cellulose. Lack of even one member of the essential microbial team decreases treatment efficiency.

Microorganisms can only grow on soluble food (BOD), which can pass through their cell membrane to be metabolized. Sludge must be solubilized to be biodegraded. Microorganisms can produce exoenzymes to solubilize sludge, but specific conditions are required to optimize enzyme production. Enzyme production requires energy, so most microorganisms minimize enzyme synthesis until BOD becomes limiting. Therefore, solids entering a WWTP are typically only settled rather than being degraded.

Why the Bacta-Pur® System is Effective

First of all, use of Bacta-Pur® XLG assures the presence of a balanced community of strains, which can produce all essential enzymes to digest the different components of sludge from protein and lipids to carbohydrates and cellulose. Secondly, Bacta-Pur® XLG is one of the most concentrated cultures available; the minimal visual cell count exceeds 10^{11} cells/mL, which is more than 1000 times other brands. Thirdly, preactivation, the on-site technique of physiological engineering optimizes the product, prior to bringing the cultures in contact with the sludge to be digested. Preactivation is automated with the BACTIVATOR® family of onsite incubators.



Fill out a wastewater treatment plant questionnaire, and return it to IET-Aquaresearch Ltd for site-specific application methods and dose rates.

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