

Conditions for Treatment Success with Bacta-Pur® XLG ©2009

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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 probiotic yogurt for its 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.

The necessary conditions to being able to obtain maximal performance with Bacta-Pur® XLG define Windows for Treatment Success. Bacta-Pur® XLG, which is used to biodegrade grease and sludge, can also perform others tasks such as removing soluble pollutants, this latter task, however, requires oxygen among other factors not needed for grease and sludge solubilization (see windows).

Window for Treatment Success

(optimal conditions are listed followed by approximate limits of acceptable ones in parentheses)

Grease, Sludge & Odor Control

- lack of inhibitors
- Temperature: 30°C (2-40°C), 86°F (33-104°F)
- pH: 7-8 (6-8.5)

Complete Biodegradation

- lack of inhibitors
- Temperature: 30°C (2-40°C), 86°F (33-104°F)
- pH: 7-8 (6-8.5)
- salinity (‰): < 5
- dissolved oxygen: > 2 mg/L
- BOD:N:o-PO₄¹ ratio: 100:6:5
- TOC:N:o-PO₄¹ ratio: 50:6:5
- adequate trace elements²

¹) Bacteria require soluble nutrients for rapid assimilation, growth and performance. Excess divalent cations such as Ca, Fe, Mg or cationic polymers, in the presence of oxygen bind, with phosphate reducing its' biological availability. "Soluble o-PO₄" is determined by prefiltering the sample through 0.45 µm filter; this eliminates particulate phosphate, which could be solubilized during the analytical test resulting in overestimation of what is easily biological available.

The presence of adequate trace elements such as potassium, calcium, magnesium, sulfur, sodium, chloride, zinc, iron, manganese, cobalt, molybdenum, nickel, copper, *etc.* is required for biological activity. These are usually not lacking in waste water from municipalities and food transformation, but can be in treating wastes such as hydrocarbons etc, which are principally only a source of carbon. Measurable amounts of the trace elements, in the effluent, typically indicate an adequate supply.

