

A superior Multi-Action Microbial Consortium

MULTI-ACTION MICROBIAL CONSORTIUM

Eco Ultra concentrate microbial consortium demonstrates superior enzyme performance for use in multiple applications. Eco Ultra Concentrate exhibits a broad range of degradation capabilities needed for a multi-purpose product. It is efficient in maintenance of drain line and grease traps, improving septic and waste degradation and cleaning and odour control.

In their natural environment, bacteria produce hundreds of enzymes in response to the organics present in their environment. They produce extracellular enzymes that break down proteins, starches, fats, oils, greases, urine, esters and toilet tissue into smaller particles outside the bacterial cell. The bacteria then transport the smaller particles across their cell membrane for use as an energy source and for building of new cellular components. Since bacteria detect the organics present as potential food and produce specific enzymes to breakdown these organics, it is a very efficient system. Many different enzymes are required to completely breakdown a substrate.

The bacillus consortium in Eco Ultra Concentrate produce 7 separate enzymes to ensure a swift degradation of key organic contaminants to ensure drain lines, grease traps, septic systems and surfaces are biologically cleaned & odours' controlled. Although many bacteria can utilize these organics as food sources, it is the bacteria with the most rapid production of these enzymes that provide the most dramatic effects.

SAFETY OF ECO ULTRA CONCENTRATES CONSORTIUM

Eco Ultra Concentrate contains a blend of safe Bacillus microorganisms. Toxicity studies done by an independent laboratory shows that Eco Ultra Concentrate consortium has no acute oral toxicity, no acute dermal toxicity, and no acute inhalation toxicity at maximal test dose. Acute dermal irritation and acute eye irritation studies classify Eco Ultra concentrate consortium as non-irritating. Eco Ultra Concentrate consortium does not elicit a skin sensitization reaction.

BENEFITS

- **Drain lines** – degrades and eliminates organics found in drain lines. Regular addition of Eco Ultra Concentrate maintains a cleaner and odour-free system.
- **Septic and waste treatment** – maintains effective activity in septic systems, eliminating the need for excessive pumping. Eliminates odours' caused by incomplete digestion of malodourous volatile fatty acids.
- **Bathroom cleaning and odour control** – penetrates cracks, crevices and pores of surfaces where organics accumulate. Eco Ultra removes the organics leaving a visually cleaner surface. Provides long term odour control by removing the organics that cause odours

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FEATURES

- A stable consortium of safe Bacillus spores
- Production of multiple enzymes providing a wide range of degradation capabilities
- A synergistic blend that works in concert to provide superior performance across multiple applications;
- Excretion of high levels of amylase, cellulase, lipase, protease, urease, esterase & xylanase enzymes
- Ability to work under aerobic and anaerobic conditions and
- Single product simplicity for multi-application flexibility.

PRODUCT CHARACTERISTICS

Bacteria Counts	1.02 X 10 ⁸ cfu/ml
Enzyme production	<p>Bacillus consortium producing the following enzymes:-</p> <ul style="list-style-type: none"> • Protease – breaks down proteins (e.g. meat, excreted/secreted proteins) into amino acids. • Lipase – breaks down fats/grease into fatty acids & glycerol. If not broken down, fats can go rancid & lead to off-odours’ & blocked drains/fat grease traps. • Amylase – starch acts as a glue for dirt – amylases catalyse the break-down of starch into sugars which are then further used as a food source by the bacillus. • Cellulase – breaks down cellulosic material. • Urease - catalyzes the hydrolysis of urea into break-down products. • Esterase -splits esters into an acid and an alcohol in a chemical reaction with water called hydrolysis. Esters have characteristic odours’ most of which are pleasant/fruity, however can also include onion/garlic & other malodours • Xylanase – help in breaking down plant cell walls. <p><i>What this means – the bacillus use the multitude of enzymes produced to break down the components of malodour & staining to provide microbial cleaning at the smallest level of dirt/contamination.</i></p>
Salmonella	Not detected
Appearance	Clear liquid
Fragrance	Pleasantly perfumed
Shelf-life	Two years; maximum loss of 1.0 log at recommended storage conditions

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DOSE RATES (Follow dilution rate)

Eco Ultra Concentrate can be further diluted dependant on application to a maximum of 1:9 on day of use. The diluted product should not be stored for longer than 2 days.

DOSAGE - FOOD WASTE (DOMESTIC & INDUSTRIAL)

Reducing blockage of drains, pipes: treatment of effluent not on main drainage: reduction of odours' & general purpose cleaning.

AREA	DILUTION	INITIAL DOSE RATE	REGULAR MAINTENANCE RATE	METHOD OF APPLICATION
Effluent Tanks	As is	400g per typical house	100g per month	Through any convenient access point e.g. toilet
Cess Pits				
Urinals			Spray twice daily	Direct
Bathroom	1:9		Daily cleaning	As per cleaning method
Drains	As is	15g	15g / month	Direct

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DOSAGE - AGRICULTURE WASTE

Reduction of high solids/crusting of waste: liquefaction and cleaning (i.e. cowsheds, piggeries, poultry farms etc.)

AREA	DILUTION	INITIAL DOSE RATE	REGULAR MAINTENANCE RATE	METHOD OF APPLICATION
Buildings	1:9	10 L/ 100 m ²	10 L/100 m ²	As per cleaning method
Floors				

DOSAGE - SEWAGE PLANTS (where existing biomass & activated sludge is present)

AREA	DILUTION	INITIAL DOSE RATE	REGULAR MAINTENANCE RATE	METHOD OF APPLICATION
Trickling Filters	1:9	1 kg per 4.5 million litres	500g per 4.5 million litres per week	Add to primary settling tank
Anaerobic Digesters, retention ponds, activated sludge		500g per 45000 litres	Repeat for 3 days then weekly	Add to inflow pipe

CONCLUSION

Eco Ultra Concentrate is designed as a bio-technical aid to treatment of organic waste material offering the following advantages: - Liquefaction & reduction of solids, reduction of odour, easier disposal of waste, aids general cleaning of soiled areas, safety in operation of effluent systems, offers a viable alternative to current processing techniques using a bio-technical approach.

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ECO Ultra Concentrate



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CONTACT DETAILS

PQ Green (Pty) Ltd
No. 20 Belgrade Road
Spartan Ext 2
Kempton Park

P.O. Box 9488
Edleen
1625

Phone:- 011 974 6585

Web: <http://www.prepquip.com>

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