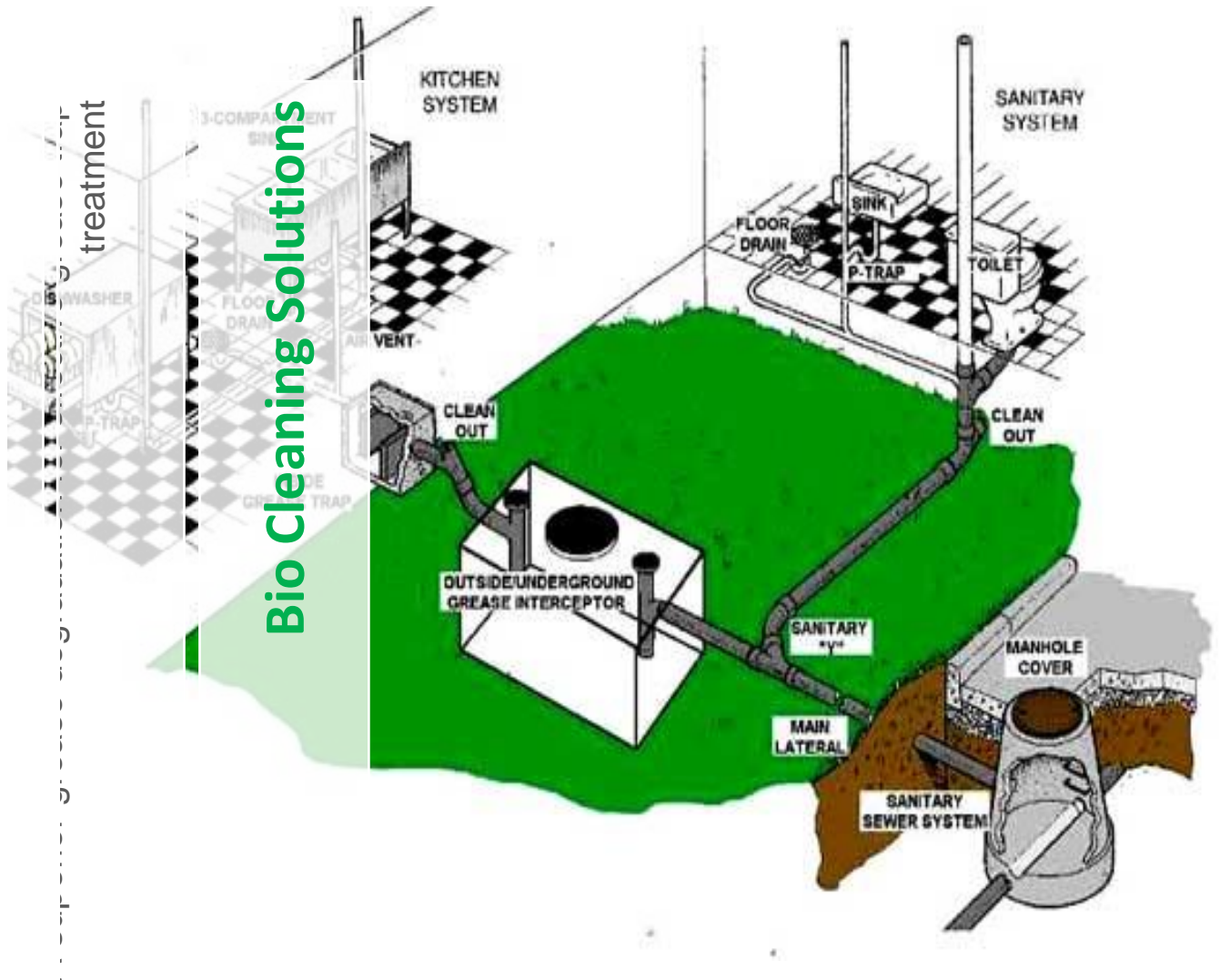


M101 - Grease Trap Reviver .



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M101 - Grease Trap Reviver

Multi-Action Microbial Consortium

M101 - Grease Trap Reviver microbial consortium demonstrates superior enzyme performance for use in grease trap and drain line applications. This microbial blend includes unique strains for a more complete degradation of organic waste found in grease traps and in drain lines.

In their natural environment, bacteria produce hundreds of enzymes in response to the organic wastes present in their environment. However many different enzymes are required to completely break down a substrate so it is the bacteria with the most rapid production of these key enzymes that provide the most dramatic effects. In a grease trap or drain line application, M101 - Grease Trap Reviver produce the key enzymes to break down the proteins, starches, fats, oils, and greases found in those environments and use the components as food sources. Organic wastes are utilized by the Bio enzyme consortium so wastes aren't transferred downstream.

Grease is a major problem in grease traps and drain lines. Fats, oils and greases are composed of triglycerides. Many bacteria produce a lipase enzyme to break down the triglyceride into glycerol and fatty acids. The glycerol is easily degraded by many bacteria. However, fatty acids, which typically make up over 90% of the mass of the triglyceride, are difficult to degrade and can persist in a grease trap or drain line, causing clogging, pH drops and foul odours. The Bio enzyme strain provides an additional benefit by degrading and utilizing the recalcitrant portion of grease molecules, the long-chain fatty acids. When used as part of a daily maintenance program, M101 - Grease Trap Reviver will reduce grease trap pumping, maintain free-flow in drains and reduce malodours.

M101 - Grease Trap Reviver incorporates proprietary inhibitory systems that provides excellent product stability and, upon addition to grease traps or drain line, acts as an essential growth stimulant that promotes superior germination and outgrowth.

Benefits when diluted as recommended

- With regular application, M101 - Grease Trap Reviver . will reduce trapped grease, maintain free-flow in drains, and reduce odours in grease traps and drain lines.
- M101 - Grease Trap Reviver does not transfer the grease downstream. The unique bacillus consortium degrades and digests grease and scum in grease traps and drain lines.
- The active ingredients in M101 - Grease Trap Reviver reduce the production of odours by inhibiting biological production of odour causing compounds such as hydrogen sulphide and the
- The Bio enzymes degrade long-chain fatty acids that are known to be persistent in the environment causing the majority of maintenance and treatment problems.
- The partial break down of grease causes pH to drop in a grease trap or drain line, creating an environment that is inhibitory to many bacteria. The Bio enzyme strain is active at the low pH levels generated.
- The Bio enzyme consortium alleviates low pH problems by breaking down both short- and long-chain fatty acids, maintaining an environment more amenable to active microbial degradation.
- M101 - Grease Trap Reviver demonstrates visible reductions in grease when field tested in restaurant grease traps.

Features

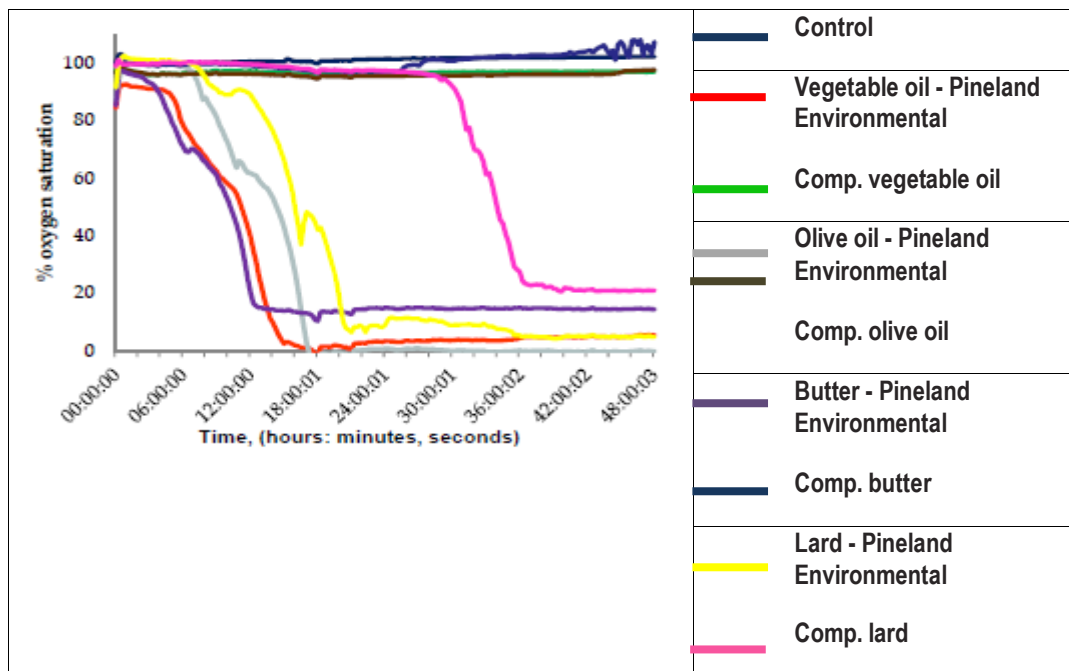
- Specifically selected highly effective bacteria multi-strain formula for:

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- Production of lipase to cleave fats
- Production of other extracellular enzymes to degrade food solids and sludge (Excretion of high levels of amylase, cellulase, protease, urease, esterase & xylanase enzymes providing a wider range of degradation capabilities including short- and long-chain fatty acids, proteins, oils, grease, cellulose, carbohydrates, esters & plant cell walls.
- Ability to survive in the low pH environment of an active grease trap
- A synergistic blend that works in ert to provide superior performance in grease trap and drain line applications
- Ability to work under aerobic and anaerobic conditions
- A proprietary inhibitory system that provides excellent product stability and, upon addition to a drain line or grease trap, acts as an essential growth stimulant that promotes superior germination and outgrowth.
- Product contains Bacillus bacteria in 100% spore form for:
 - Extended product life
 - Product stability

Comparison of Pineland Environmental M101 - Grease Trap Reviver vs. major competitor product



Pineland Environmental bacteria show good activity against veg oil (red), olive oil (pale blue), butter (purple) & lard (yellow)

Despite sample being from a major supplier & specifically for a grease trap application, it is only active against lard (pink). Veg oil, olive oil & butter, no better than the substrate control

Safety of Bio enzyme Consortium

M101 - Grease Trap Reviver contains a blend of safe *Bacillus* microorganisms. Toxicity studies done by an independent laboratory revealed that the Bio enzyme consortium has no acute oral toxicity, no acute dermal toxicity, and no acute inhalation toxicity at maximal test dose. Studies in acute dermal irritation and acute eye irritation have found Bio enzyme consortium as used in M101 - Grease Trap Reviver as non-irritating. The Bio enzyme consortium also does not elicit a skin sensitization reaction.

Product Characteristics

Bacteria Specifications - 95.0 x10⁷ cfu/ml (3.6 Trillion/gal)

Bacteria Type - Blend of Bacillus spores

Salmonella - Not detected

PH – 7.0 – 9.0

Appearance - No colour added, tan liquid

Fragrance - No fragrance added

Shelf-life - Two years; maximum loss of 1.0 log at recommended storage conditions

Formulation Recommendations

Mix well and use entire contents of 5 and 25 litre container. Dilute one part entrante with approximately 9 parts water, taking into account the volume of colour and/or fragrance to be added in the final formulation. Blend in remainder of formulation (colour and/or fragrance). Blend slowly for a minimum of thirty minutes to assure proper spore dispersion in solution. Do not allow product to stand without agitation during packaging.

Storage and Handling

Store in cool and dry places in closed containers at 10° - 40°C.

Wash hands thoroughly with warm, soapy water after contact.

Avoid eye contact.

Available Packaging

5 and 25 litre containers in a entrante.

Recommended Application Feed Rate at **Ready to Use Formulation** only

Please note that all dosage guidelines are recommendations only as grease, contents and grease loading may differ

Grease Traps	
Trap Size	Dosing
1000 liters	200 ml per day
2000 liters – 5500 liters	400 – 600 ml per day
5500 liters or larger	900 – 1200 ml per day

Drain Lines			
Size	Frequency	Notes	Dosing

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Residential / Hotel slow running drains	3 day start-up	Run hot water before dosing product directly into drain. For best result dose at bed time or when drain will not be used for several hours	60 – 120 ml/day
Residential / Hotel slow running drains maintenance	On-going	For best result dose at bed time or when drain will not be used for several hours	60 – 120 ml/week
Commercial slow running drains	7 day start-up	For best results dose at closing time or during quite times	180 – 240 ml/day
Commercial maintenance	Ongoing	For best results dose at closing time or during quite times	120 – 240 ml/week
Floor drains	Ongoing	Start-up – treat drains for 3 – 7 days to achieve better flow rates. Maintenance dose weekly For best results dose at closing time or during quite times	Mix 120ml per liter to treat 6 – 8 drains

Industrial Applications

Industrial Applications			
Abattoirs	3 Day Start up	For best results, dose as far away from disinfection run-off from cleaning operations.	Initial Dosage 0.1% w/v of dam
	Ongoing	For best results, dose as far away from disinfection run-off from cleaning operations	Daily Dosage 0.03% w/v of influent volume

Pineland Environmental is the biotech-based company specializing in enzymes and biologicals. Using nature's own technologies, we continuously expand the frontiers of biological solutions to improve industrial performance everywhere. The contents of this document are subject to change without further notice.

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Eco Accreditation
Biological Based

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