

**BIO CLEANING SOLUTIONS**

**Bio Tech GTX 1 (RTU)**

*Multi-Purpose – Probiotic Biologically enhanced Cleaning, Degreasing and Deodoriser - Ready to Use Formula*

**IMPORTANT NOTICE**

***This product is manufactured according to and conforms to the terms and conditions stipulated in SANS CD 1604ED1.1: Biologically enhanced cleaning and degreasing products.***

All Green Worx Cleaning Solutions Products are Certified as follows:



**Bio Tech GTX 1** microbial consortium demonstrates superior enzyme performance for multiple applications. It exhibits a broad range of degradation capabilities needed for a multi- purpose product efficacious in the maintenance of drain lines and grease traps, improving septic and waste degradation and cleaning, and odor 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 new cellular components. Since bacteria detect the organics present as potential food and produce specific enzymes to break down these organics, it is a very efficient system. Many different enzymes are required to completely break down a substrate.

**The bacillus consortium in *Bio-Tech GTX 1* produces seven separate enzymes to ensure a swift degradation of key organic contaminants to ensure drain lines, grease traps, septic systems, and surfaces are biologically cleaned and odors controlled. Although many bacteria can utilise these organics as food sources, the bacteria with the most rapid production of these enzymes provide the most dramatic effects. Technologically, it is the most advanced formulation on the South African market.**

**Safety of Bio Tech GTX 1 Consortium:**

***Bio Tech GTX 1*** contains a blend of safe *Bacillus* microorganisms. Toxicity studies done by an independent laboratory show that Bio-Tech GTX 1 consortium has no acute oral toxicity, no acute dermal toxicity, and no acute inhalation toxicity at the maximal test dose. Acute dermal and acute eye irritation studies classify ***Bio-Tech GTX 1*** consortium as non-irritating. ***Bio-Tech GTX 1 consortium does not elicit a skin sensitization*** reaction.

**DATA SHEET**

**Benefits**

**Features**

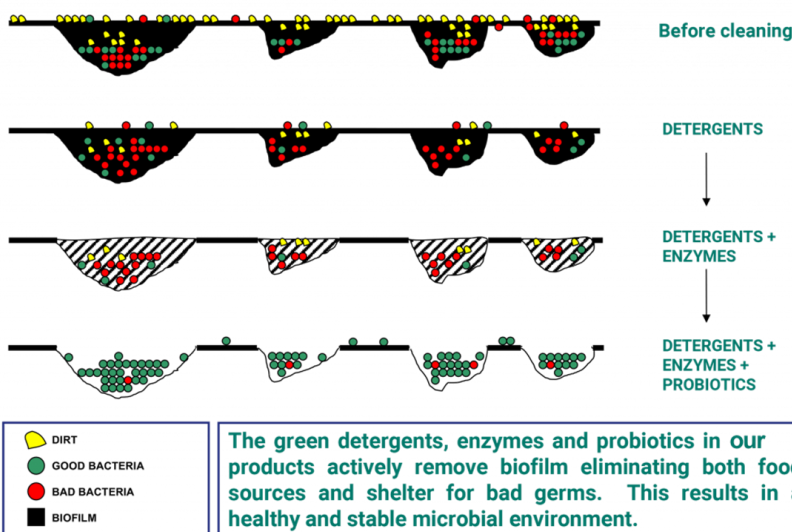
- **Drain lines** – degrades and eliminates organics found in drain lines. Regular addition of *BIO TECH GTX 1* maintains a cleaner and odour-free system.
- **Septic and waste treatment** – maintains effective activity in septic systems, eliminating the need for excessive pumping. Removes odours caused by incomplete digestion of malodorous volatile fatty acids. Effective treatment of pit toilets.
- **Hard Surface cleaning and odour control** – penetrates cracks, crevices, and pores of surfaces where organics accumulate, removing the organics and leaving a visually cleaner surface. Provides long-term odour control by removing the organics that cause odors and preventing their return.

- 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.
- Single product simplicity for multi-application flexibility
- Toxicologically rated by Global GreenTag PHD as non-asthma & non-allergy sensitivity

## PRODUCT CHARACTERISTICS

- **Bacteria CFU Counts** : 1e8/ml.
- **Bacteria Type** : Bacillus consortium producing the following enzymes:
  - ✓ **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 and 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 and worse odours.
  - ✓ **Xylanase** – help in breaking down plant cell walls.
    - What this means – the bacillus uses the multitude of enzymes produced to break down the components of malodour and staining to provide microbial cleaning at the smallest level of dirt/contamination.
- **Salmonella** : Not detected
- **Appearance** : Clear liquid
- **Fragrance** : Pleasantly perfumed
- **Shelf-life** : Two years; maximum loss of 1.0 log at recommended storage condition

## Infogram on how bio enzyme probiotics work?



## DOSE RATES (Follow dilution rate)

*Bio Tech GTX 1* is to be used as is for deep cleaning and can be further diluted for the purpose of light cleaning or dependent on application to a further maximum of 1:9. **This Dilution can be stored for up to two weeks from date of dilution – Dispose of into a Drain (acts as a drain cleaner and deodoriser)**

1. **FOOD WASTE – DOMESTIC & INDUSTRIAL:** reducing blockage of drains and pipes: treatment of effluent not on main drainage: reduction of odours and 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
Pit Toilets	As is	100 ml per week for four weeks	100 ml per month	Apply dosage into the pit toilet
Portable Toilets, RV	As is	100 – 150 ml per emptying	100 – 150 ml per emptying	Fill deposit bucket with 20 liter water – Add 100 ml to water.Recharge when necessary
Cess Pits	As is	400g per typical house	100g per month	Through any convenient access point e.g. toilet
Urinals, toilets	As is		Spray twice daily	
Bathroom, offices, all surfaces	1:9		Daily cleaning	As per cleaning method
Drains	As is	15g	15g/month	Direct

2. **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		1kg per 10 tons animal weight	Weekly for two weeks, then 500gm per week	Spray over surfaces
Floors	1:9	1kg / 120m <sup>2</sup>	1kg / 120m <sup>2</sup>	Spray over surface
Effluent Pits		1kg / 250 000 litres	Weekly	Spray over cone
Ponds & Slurry Tanks		1kg / 250 000 litres	Weekly	Spray over cone

3. **SEWAGE PLANTS:** general aid to processing.

Area	Dilution	Initial Dose Rate	Regular Maintenance Rate	Method of Application
Trickling filters		1kg / 4,5 million litres	500g / 4.5 million litres per week	Add to primary settling tank
Anaerobic digesters	1:9	500g / 45 000 litres	Repeat for 3 days then per week	Add to inflow pipe
Retention ponds		500g / 45 000 litres	Repeat for 3 days then per week	Add to inflow pipe
Activated sludge		500g / 45 000 litres	Repeat for 3 days then per week	Add to inflow pipe

### Mixing and dilution guidelines.

Most formulators can produce liquid products. This product allows formulators to be present in the lucrative biological cleaning product market without extensive specialist knowledge.

- The most common 'bio' products in the industrial, institutional, and consumer markets are liquids - the Bio Tech GTX concentrate series are designed specifically for this use.
- Simple format that is easily dilutable in clean water.
- Concentrates are easy to handle and store.
- Simple dilution format for easy calculation in formulation – follow the guidelines for dilution and mixing. Always ensure you work in a hygienically clean environment free from contaminants. When decanting the concentrate into a mixing vessel, ensure the vessel is hygienically clean, and the mixing apparatus is clean before use. Once you have achieved the desired dilution, ensure that any container to be decanted in is hygienically clean and that the closing cap is clean and free of any contaminants.

**Bio-Tech GTX 1 is designed as a bio-technical aid for the treatment of organic waste material, offering liquefaction and reduction of solids, reduction of odour, more straightforward disposal of waste, aiding general cleaning of soiled areas, safety in the operation of effluent systems, offers a viable alternative to current processing techniques using a bio-technical approach.**

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## Cleaner. Greener. Smarter.

