Unit 1 New Port Business, Quartz Drive, Kya Sands Business Park, Kya Sands
+27 11 708 6625/6 | info@greenworx.eco | www.greenworx.eco

GREENWORX
Bio Cleaning Solutions

BIO CLEANING SOLUTIONS

*Odorite™ Probio WSP **GREEN** Enzymatic (Water Soluble Powder) In-Use Concentrate*

Multi-Enzyme: Climate-Benign Floor and hard surface cleaning technology for food manufacturing, processing, and household kitchens.

All Green Worx products are certified as follows:

Triple-action ***Odorite™ Probio WSP Enzymatic Powder*** is the latest innovation in cleaning technology. The advanced single-dose formulation technology for removing greasy soils provides superior, immediate cleaning of all surface soils, comparable to industrial-strength conventional chemical floor cleaners. The multi-enzymatic action penetrates deep into the surface's pores to attack and remove embedded residual soils and eliminate the biofilm matrix.

Aerosolized grease and food spills collect particulate soils contributing to grime build-up on floors and other surfaces. Residual organics collect in the microscopic pores of the surface, cracks, corners, and grout. Floors are not clean if these embedded soils remain, and detergents alone cannot penetrate these layers of residual grime. The organic deposits pack deep into surface irregularities, producing malodours and supporting unwanted biofilm, insects, and harmful bacteria.

Odorite™ Probio WSP Enzymatic Powder **removes this grime with dual technology unequaled by traditional surfactant chemistry. It combines superior surfactant technology with bio-enzymatic action. The enzymes within Odorite™ Probio WSP Enzymatic Powder break down fats, oils, and grease, while also breaking down starches which act as a glue, trapping dirt and other organics on the surfaces. This powerful combination provides an exceptional ability to break down residual organic soils.**

Regular use of ***Odorite™ Probio WSP Enzymatic Powder*** removes layer upon layer of embedded grime while avoiding the traditional challenge of increasing CFU counts on food contact surfaces using bacterial cleaning. Continued use prevents future organic soil and grime build-up, keeping the floor deep-clean and odour-free and controlling potentially harmful microorganisms and biofilm.

DATA SHEET	
Benefits	**Features**

• Specifically designed for cleaning food facilities' floor surfaces where traditional bacterial-based products cannot be used due to bacterial swab counts (ATP meter) • Deep-cleans floors and grout by removing the grease and grime that collects in the pores of the floor surface. • Eliminates the greasy floor coating that causes slipperiness. • Improves freshness by controlling odors from residual organics packed into irregular floor surfaces. • Eliminates the need for rinsing. • Degrades residual organic soils that help support insects and other unwanted pests. • Breaks down biofilm. • Breaks down Biofilm in water lines for animal farming	• Specifically selected highly effective enzyme combination to remove protein, fats, grease, and starch-based stains. • A proprietary inhibitory system that provides excellent product stability • Readily biodegradable surfactants for improved cleaning • Product is compatible with existing biological-based fat/grease trap treatment products and will ensure higher throughput on the grease traps as the fats/grease will be pre-digested. ENVIRONMENT • Minimizing our impact on the environment is core to everything we do. REDUCE CARBON FOOTPRINT BY 97% • Compared to transporting liquid concentrates. Bio Tech GTX Powder products result in no transportation of water. BIODEGRADABLE, PRE-DOSED FORMULATIONS • No risk of chemical overdosing, which has the potential to impact the planet negatively. NO SINGLE-USE PLASTIC • Our bottles are designed to be durable and last a lifetime. Through reusing our bottles, the system reduces waste by 90% compared to using traditional commercial cleaning solutions. PLANET FRIENDLY PACKING • Sachets are compostable and recyclable. PRODUCT HEALTHRATE CERTIFIED • Global GreenTag asthma and allergy safe

Most biofilms are multi-species. Even non-biofilm-forming microbes can be sheltered by biofilm.

Frequency

- Planktonic bacteria can begin to form a biofilm within minutes in contact with any interface.
- 99% of bacteria exist in the form of biofilm.
- Biofilms are ubiquitous and frequently develop on Medical Devices (urinary and intravenous catheters, endoscopes, endoscope washers, dialyze circuits, etc.).
- ATP Tests can lead to "false-negative" results: germs hidden in biofilms are not collected.

Emergent properties

Biofilms have emergent properties (unpredictable from the study of free, planktonic bacteria).

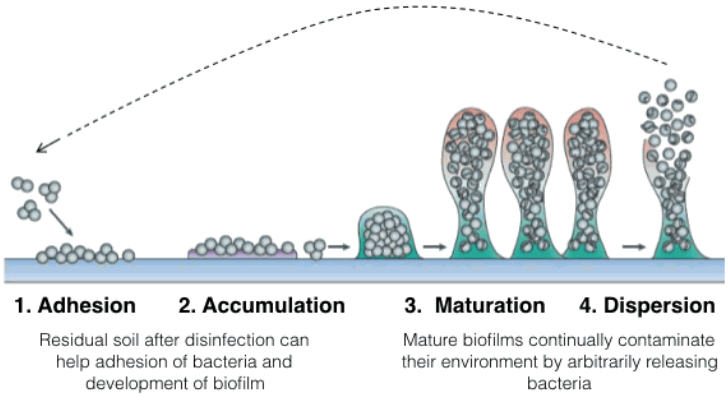
- **Cooperation**: Horizontal transfer of genes carrying antibiotics resistance and virulence is favored inside biofilms.
- **Survival**: Biocides are mostly tested against free-floating (planktonic) bacteria, not against biofilms. Structural and functional properties of biofilm matrix enhance survival of exposure to antimicrobials.
- **Complex**: Cells in biofilms can undergo differentiation. Continuously remodeled, every microbial species develops a specific matrix composition.

Biofilms enable bacteria to survive in a broader range of conditions:

- Bacteria in a biofilm are up to 1000 times more tolerant of biocides (disinfectants).
- Antibiotics-resistance is favored inside biofilms through a cell-to-cell signaling mechanism (horizontal transfer of genes).
- Progressive accumulation leads to a build-up of resistant biofilm over time. Bacterial biofilm can resist high-level disinfection if the detergent action is inefficient against the biofilm matrix. [7]
- Biofilms form a protective barrier around infectious microorganisms. Biofilms enhance survival of exposure to antimicrobials.

Mature biofilms continuously contaminate their environment by randomly releasing microbes.

Antimicrobial Resistance remains even when cells are dispersed from biofilms.



BIOFILM AND CLEANING

The most crucial step in the reduction of microorganisms is cleaning.
It is impossible to disinfect or even sterilize inadequately cleaned instruments.
Protein debris can become fixed by chemicals if cleaning and rinsing steps are not carried out correctly. In short, all disinfection processes, whether done manually or by washer-disinfector, should be done after appropriate manual cleaning.

- It is impossible to disinfect or even disinfect an inadequately cleaned instrument or surface
- The detergence process should eliminate the biofilm matrix. Microbes protected by Biofilm will resist even high-level disinfection.
- Current decontamination strategies assume that bacteria are free-floating (planktonic), whereas a biofilm protects 99% of bacteria. Most biocides are tested against free (planktonic) bacteria but not against biofilms.
- Inorganic and organic materials interfere with disinfectants' effectiveness and antimicrobial activity and sterilization.

The primary mechanism of enzyme action:
Enzyme-based cleaners are handy for biofilm removal. Bacteria are somewhat tricky to remove with traditional alkaline or acid cleaners. Enzyme cleaners are more effective on biofilms since they work as proteases by breaking down proteins at bacterial attachment sites. They work at maximum efficiency at high pH and temperatures below 60°C. Enzyme cleaners are an increasingly attractive alternative to traditional chemical cleaners because of biodegradability and other environmental factors, such as reduced wastewater generation and energy savings from using cold water, and they are typically less expensive than alkaline or acid cleaners.

Enzymes vs. Traditional Chemistry

Unlike traditional chemistry that lifts and holds soil particles in suspension, suitable enzyme detergents dissolve soil in an irreversible reaction.

Enzymes are not degraded by their activity. They are more effective for complex medical devices and food processing equipment where mechanical action, like brushing, is complex or some parts are inaccessible.

Benefits of Green Worx CS multi-enzymatic compounds

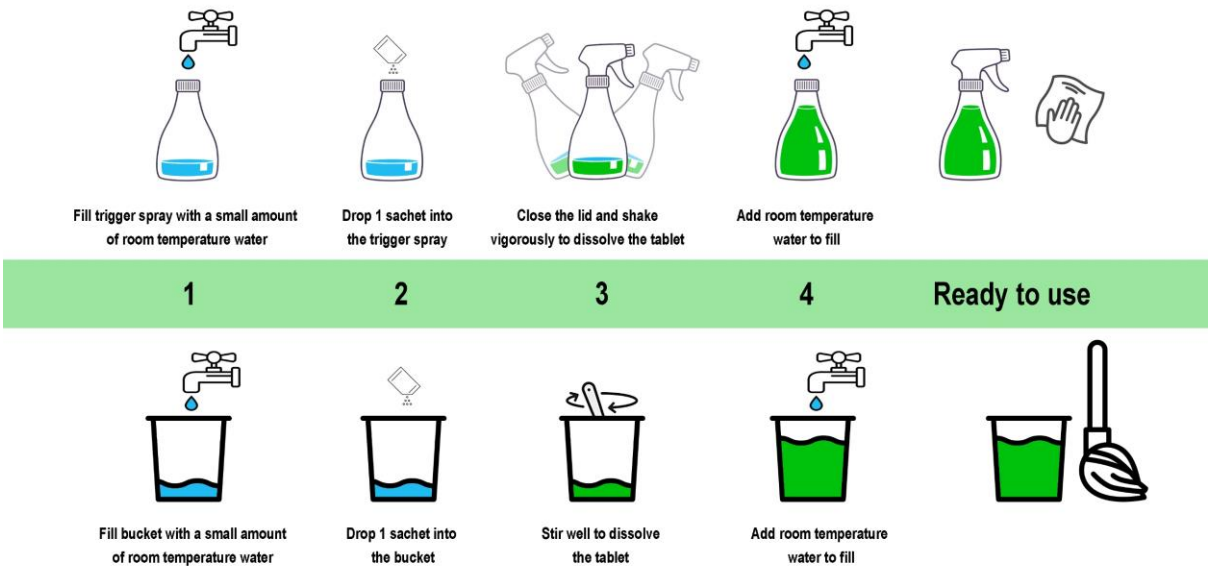
- Not all enzymatic detergents display high enzymatic activity. Green Worx has the know-how to achieve high enzymatic activity across a broad biofilm matrix and organic matter spectrum.
- Continuously remodeled, specific matrix compositions require differentiated enzyme compounds to break them down (e.g., Proteases for proteins, Amylases for starches, and Lipases for fatty matter). Green Worx detergents contain additional enzyme compounds.
- Multiple enzymes are difficult to stabilize types, and concentrations are crucial to achieving efficacy across broad spectra of soil and biofilm matrices.
- When combined with a biocide, enzymatic activity is compromised. Proteins (enzymes are proteins) are partially inactivated by positively charged biocides (quaternary ammonium) due to charge interaction.

Available packaging:
- 10-gram sachets packed 30 sachets per carton, providing 30 liters of ready-to-use product.

Recommended dilution directions for concentrate:
- ***Odorite™ Probio WSP Enzymatic Powder*** can be diluted for various applications.
- For intense deep cleaning purposes, it is recommended to dilute 1 Sachet ***Odorite™ Probio WSP Enzymatic Powder*** added to 1-liter water.
- The mixing solution is a guideline dependent on the required application and your evaluation of the dirt to be cleaned.

- The recommended dilution for **general maintenance** cleaning is one sachet of 10-liter water.
- Allow a few minutes for activation time / and to dissolve.
- You are now good to go and clean.
- Your standard disinfection/sterilization regime will be followed once the surfaces have been manually cleaned.

PRODUCT CHARACTERISTICS



- **Enzyme Type** :
  - ✓ ***Protease*** – breaks down proteins (e.g., meat, excreted/secreted proteins) into amino acids.
  - ✓ ***Lipase*** – breaks down fats/grease into fatty acids and glycerol. If not broken down, fats can go rancid & lead to off-odors and blocked drains/fat grease traps.
  - ✓ ***Amylase*** – starch acts as a glue for dirt – amylases catalyze the breakdown of starch into sugars which are then further used as a food source by the bacillus.
- **Salmonella**: Not detected
- **pH**: 7.0 – 8.5
- **Appearance**: Clear liquid
- **Fragrance**: No fragrance added
- **Stability** : Stable at 2°- 65° C
- **Shelf life**: Two years at room temperature (25° C)

Storage and handling:
- Always store in a cool, dry place
- Avoid eye and skin contact.
- Wash hands thoroughly with warm, soapy water after handling

Toxicity testing conducted by Global GreenTag revealed no acute oral toxicity, no acute dermal toxicity, and no acute inhalation toxicity at the maximum dose.

Bio Cleaning Solutions means **Green Technology**
. This unique formulation meets the criteria for a cleaner, greener, more brilliant program for green technology. The bio-cleaning solutions designation is used for formulations that utilize biodegradable surfactants at a neutral pH, contain no phosphates, solvents, and low concentrations of volatile organic compounds (VOC). Therefore, it is safe for the user and the environment.

To the best of our knowledge, the information in this leaflet is true and accurate. Still, any recommendations or suggestions which may be made are without guarantee since the conditions of use are beyond our control. No license or immunity under any patents is granted or implied. **Green Worx CS does not guarantee that the above products can be used as described without prior positive testing or that these products do not infringe third parties' patent rights.**

Manufactured and supplied by **Green Worx Cleaning Solutions**

Cleaner. Greener. Smarter.

+27 11 708 6626 info@greenworx.eco www.greenworx.eco