

## BIO CLEANING SOLUTIONS

*Odorite™ Ultra Deep Clean Enzymatic 30X Concentrate*  
*SABS 1828 Certified*

### ***Multi-enzyme: Floor and hard surface cleaning technology for food manufacturing facilities***

Triple-action **Odorite™ Ultra Deep Clean Enzymatic 30X** is the latest innovation in cleaning technology. The advanced formulation technology for removing greasy soils provides superior, immediate cleaning of floor surface soils, comparable to industrial-strength conventional chemical floor cleaners. The multi-enzymatic action penetrates deep into the pores of the surface to attack and remove embedded residual soils.

Green Worx Cleaning Solutions offers new ground breaking patented environmentally friendly pre-treat water technology to replace and outperform any wetting agent. This environmentally friendly additive is a solvent, ammonia and glycol free replacement product where powerful wetting performance is required for cleaning and dispersion of particles into solutions or suspensions; it prevents flocking and agglomeration; The additive product performs extremely well and is a replacement for conventional wetting agents to increase environmental acceptance; This new water technology is primarily used in the pre-treatment of water. The quality of water and its properties are manipulated in an entirely natural way. This natural product neutralizes the magnetic charges of particles in water thus reducing surface and interfacial tension resulting in:

Increased adhesion of the liquid to a solid particle thus resulting in a powerful wetting agent.

Allows for water and oil-based droplets to break down into finer globules and to stay in suspension for longer, resulting in powerful emulsification.

The addition of this new technology allows for the transfer of our microbes / probiotics into nooks and crannies resulting in a more effective distribution of probiotics for better degradation of organics ensuring more visible cleaning and deodorising power.

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

**Odorite™ Ultra Deep Clean Enzymatic 30X** removes this grime with dual technology unequalled by traditional surfactant chemistry. It combines superior surfactant technology with bio-enzymatic action. The enzymes contained within **Odorite™ Ultra Deep Clean Enzymatic 30X** work to break down fats and grease, while also breaking down starches which act as a glue, trapping dirt and other organics on the surfaces. This powerful combination provides exceptional ability to break down residual organic soils.

Regular use of **Odorite™ Ultra Deep Clean Enzymatic 30X** removes layer upon layer of embedded grime, while avoiding the traditional challenge of increasing CFU counts on food contact surfaces by means of bacterial cleaning. Continued use prevents future build-up of organic soil and grime, keeping the floor truly deep-clean, odour-free and controlling potentially harmful microorganisms and bio-film.

## DATA SHEET

Benefits	Features
<ul style="list-style-type: none"> <li>Specifically designed for cleaning food facilities floor surfaces where traditional bacterial based products cannot be used due to bacterial swab counts (ATP meter)</li> <li>Deep-cleans floors and grout by removing the grease and grime that collects in the pores of the floor surface</li> <li>Eliminates the greasy floor coating that causes slipperiness</li> <li>Improves freshness by controlling odours from residual organics packed into irregular floor surfaces</li> <li>Eliminates the need for rinsing</li> <li>Degrades residual organic soils that help support insects and other unwanted pests</li> <li>Breaks down bio-film</li> <li>Breaks down Bio-Film in water lines for animal farming</li> </ul>	<ul style="list-style-type: none"> <li>Specifically selected highly effective enzyme combination to remove protein, fats, grease and starch based stains</li> <li>A proprietary inhibitory system that provides excellent product stability</li> <li>Readily biodegradable surfactants for improved cleaning</li> <li>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</li> </ul>

**Most biofilms are multi-species. Even non biofilm-forming microbes can be sheltered in a 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.<sup>3</sup>
- Biofilms are ubiquitous and develop frequently on Medical Devices (urinary and intravenous catheters, endoscopes, endoscope washers, dialyze circuits etc.).
- Tests can lead to "false-negative" results: germs hidden in biofilms are not collected.

### Emergent properties

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

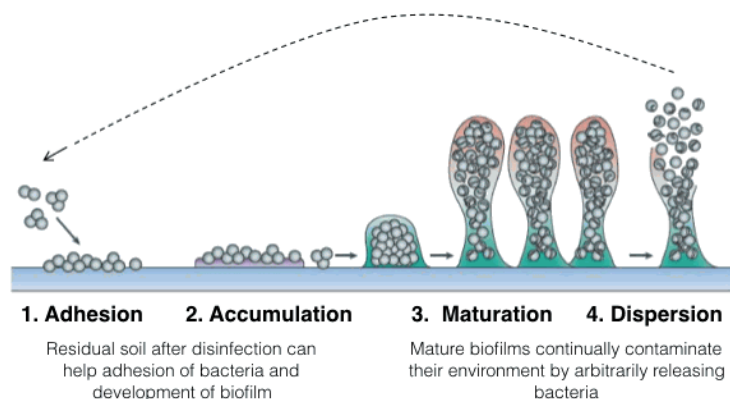
- Cooperation:** Horizontal transfer of genes carrying antibiotics-resistance and virulence is favored inside biofilms.
- Survival:** Biocides are mostly tested against free-floating (planktonic) bacteria, not against biofilms. Structural and functional properties of biofilm matrix enhance survival of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

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

- Bacteria in biofilm up to 1000 times more tolerant of biocides (disinfectants).
- Antibiotics-resistance is favored inside biofilms through cell-to-cell signaling mechanism (horizontal transfer of genes).
- Progressive accumulation leads to build-up of resistant biofilm over time. If the detergent action is not efficient against biofilm matrix, bacterial biofilm can resist high level disinfection.<sup>7</sup>
- 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 important step in 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 only after appropriate manual cleaning.

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

### Basic mechanism of enzyme action:

Enzyme-based cleaners are especially useful for biofilm removal. Bacteria are somewhat difficult 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 at 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, good enzyme detergents also dissolve soil in an irreversible reaction.

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

### Benefits of Green Worx CS multi-enzymatic compounds

- Not all enzymatic detergents display high enzymatic activity. Green Worx possesses the know-how to achieve high enzymatic activity across a broad spectra of biofilm matrix and organic matter.
- Continuously remodelled, specific matrix compositions require differentiated enzyme compounds to break them down (e.g. Proteases for proteins, Amylases for starches, 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 wide 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:

- 5 and 25 litre container(s)

### Recommended dilution directions for concentrate:

- **Odorite™ Ultra Deep Clean Enzymatic 30X** can be diluted for various applications.
- For intense deep cleaning purposes, it is recommended to dilute up to 1:30 (i.e. 1 part **Odorite™ Ultra Deep Clean Enzymatic 30X** added to 30 parts water)
- The mixing solution is a guideline and is dependent on the required application and your evaluation of dirt to be cleaned
- The recommended dilution for general maintenance cleaning is 1:100 (i.e. 1 part **Odorite™ Ultra Deep Clean Enzymatic 30X** added to 100 parts water)
- Allow a few minutes' activation time
- Your standard disinfection/sterilization regime is to be followed once the surfaces have been 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-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.
- **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 outside laboratory revealed no acute oral toxicity, no acute dermal toxicity, and no acute inhalation toxicity at maximum dose.

#### **Bio Cleaning Solutions, means Green Technology**

This unique formulation meets the criteria for a cleaner, greener, smarter programme for green technology. The bio cleaning solutions designation is used for formulations that utilize biodegradable surfactants at a neutral pH, contains no phosphates, no solvents, and low concentrations of volatile organic compounds (VOC), therefore, it is safe for the user and the environment.

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