M101 - Deep Clean In use Concentrate

Bio-Enzyme Floor and surface cleaning technology

Bio Cleaning Solutions

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Advanced innovation in floor and hard surface cleaning technology

M101 - Deep Clean in Use Concentrate

Floor and hard surface cleaning technology (extended microbial cleaning capability)

Double-action *M101 - Deep Clean in Use Concentrate* (extended microbial cleaning capability) is the latest innovation in cleaning technology. The advanced formulation technology for removing greasy soils provides superior immediate cleaning of surface soils, comparable to industrial-strength floor cleaners. Secondly, the bioenzymatic action penetrates deep into the pores of the surface to attack and remove embedded residual soils.

Aerosolized grease and food spills collect particulate soils contributing to the build-up of grime on kitchen 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 insects and bacteria.

Our new technology removes this grime with dual technology unequalled by chemistry alone. *M101 - Deep Clean in Use Concentrate* combines superior surfactant technology with bioenzymatic action. The proprietary bacillus consortium attacks the most resistant grease, oil & fat deposits while producing increased levels of protease, amylase, cellulose, esterase & xylanase enzymes when compared to competitor products. This powerful combination provides exceptional ability to break down residual organic soils. Regular use of *M101 - Deep Clean in Use Concentrate* removes layer upon layer of embedded grime. Continued use prevents future build-up of organic soil and grime keeping the floor truly deep-clean, odour-free and controls potentially harmful microorganisms.

How does DeepClean eradicate microorganisms?

M101 - Deep Clean by contrast to the killing time as described by various SABS standards being the quickest time a sanitizer or disinfectant is seen to kill the most common microorganisms, S. aureus, E. coli and P. aeruginosa within a cleaning/disinfection operation is not of the essence – duration and longevity to killing or eradicating potential harmful microorganisms is fundamental. From a hygiene and safety point of view, one may need to sanitize/disinfect and this action needs to continue working for longer that what the SABS test methodologies describe.

M101 - Deep Clean - a consortium of Bacillus-containing cleaning product; is different to that of chemicals designed to disinfect as these are live bacteria that need to compete with other (harmful) microorganisms for available food sources hence the longer contact times required by comparison to the one minute chemical based products that have a short half-life. The pattern that bacillus uses (as seen in the challenge test study) to kill or out-compete microorganisms is shown to be due to its morphological structure. In other words, where the Bacillus colony forming unit multiplies at a phenomenal rate (doubling in number every 2 hours), other microorganisms will move away from that site of the food source.

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Since the active ingredient of M101 - Deep Clean has a larger morphological structure than other organisms (competing against it) it creates a zone of inhibition of growth of other microorganisms (morphological inhibition) hence, we get fewer numbers of other microorganisms surviving but more bacillus, we have a cleaner area with few potentially harmful microorganisms as there growth / multiplication has been halted.

Benefits

• Specifically designed for cleaning floors and hard surfaces

• 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 odours from residual organics packed into irregular floor surfaces

• Eliminates the need for rinsing after mopping

• Degrades residual organic soils that help support insects and other unwanted pests

• Eradicates potential harmful microorganisms

Features

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

- Production of lipase to cleave fats (lard, butter, olive oil & vegetable oil)

- Production of other extracellular enzymes to degrade food solids and sludge (Excretion of high levels of amylase, cellulase, lipase, protease, esterase & xylanase enzymes providing a wider range of degradation capabilities including short- and long-chain fatty acids, proteins, fats, oils, cellulose, carbohydrates, esters & plant cell walls.

• A synergistic blend that works in concert to provide superior performance in cleaning applications

• Ability to work under aerobic and anaerobic conditions

• A proprietary inhibitory system that provides excellent product stability

• Product contains Bacillus bacteria in 100% spore form for:

- Extended product life

- Product stability

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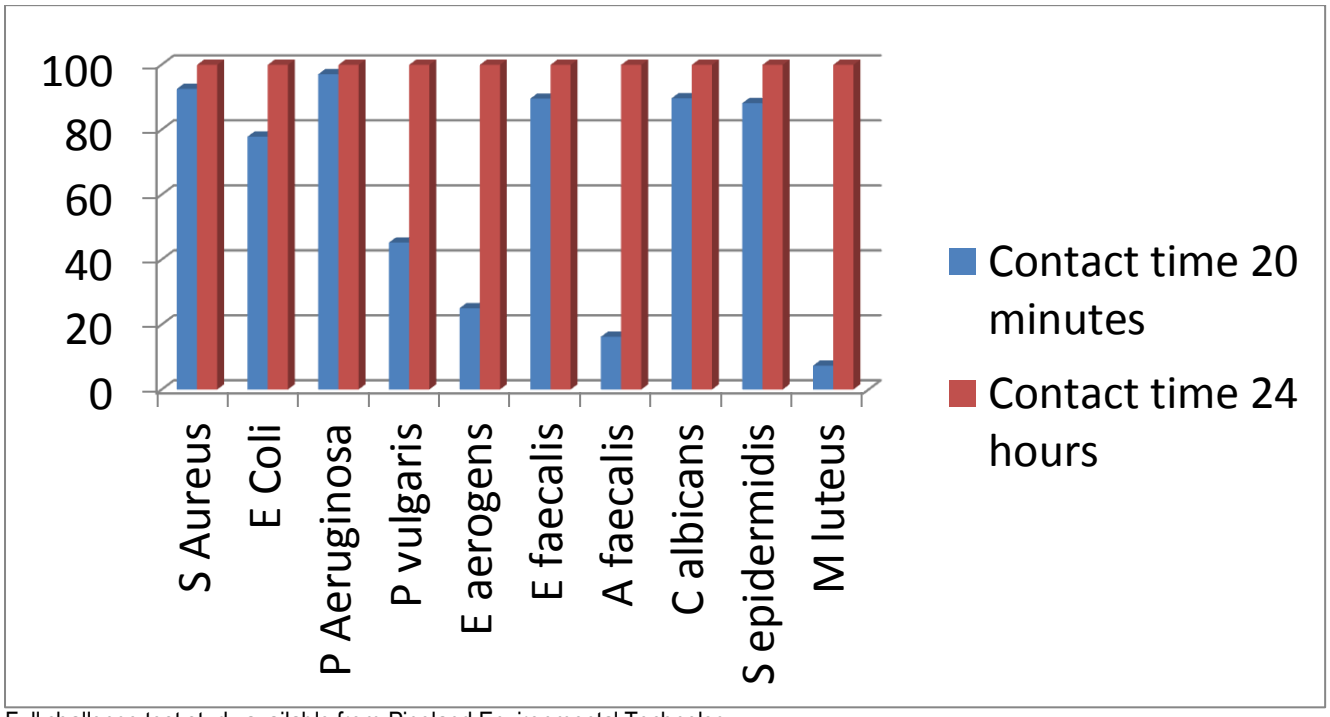
Following is a graphic representation of M101 - Deep Clean's superiority in killing/eradicating common microorganisms.

Killing efficacy of M101 - Deep Clean against 10 different microorganisms @ 1:4 dilution rate and 24 hours contact time



Full challenge test study available from Pineland Environmental Technology

The killing efficacy (PK) of M101 - Deep Clean per organism tested against was calculated using equation:

Where:

% Kill (PK): percentage kill (expressed as a percentage)

Control (CFU): the number of surviving colonies in a control sample

Test (CFU): the number of surviving colonies in a test sample

For contact time of 48 hours, the killing efficacy could not be calculated as the control counts were TNTC (Too Numerous to Count).

DISCUSSION

The killing efficacy was calculated from the difference in surviving colonies between the control sample (blank) and a product. At longer contact times, the surviving colonies for the control samples were TNTC and PK could not be counted

Please note that in terms of the relevant legislation the Directorate: Food Control administers, the onus is on the person in charge of a food premises to ensure that any substances used are affective and/or does not contaminate the foodstuffs handled on such a premises, including Biological and Enzymes. It is important to note that in this regard, the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act 54 of 1972) states the following:

2. Prohibition of sale, manufacture or importation of certain articles.—
(1) Subject to the provisions of subsection (2) and section 6, any person shall be guilty of an offence—

(b) if he sells, or manufactures or imports for sale, any foodstuff or cosmetic—
(i) which is contaminated, impure or decayed, or is, or is in terms of any regulation deemed to be, harmful or injurious to human health; or

(c) if he sells, or manufactures or imports for sale, any foodstuff—
(i) which contains or has been treated with a substance not present in any such foodstuff when it is in a normal, pure and sound condition;

Further to the above, the Regulations Governing the General Hygiene Requirements for Food Premises and the Transport of Food, R.918, state the following in this regard:

(4) A surface referred to in sub regulation (1) and a facility referred to in sub regulation (2) shall be -
(b) cleaned and washed, as and when necessary, during and/or immediately after the handling of food, so that contamination of the food that comes into contact with any such surface or facility is prevented, and any such surface or facility shall, before food comes into direct contact therewith,
contain -
(ii) no remains of cleaning materials or disinfectants which may pollute the food.

The mentioned Act does not require for any substances used on a food premises for cleaning purposes to be approved by this Department.

The above is an extract of comment of the act by Mr. A. Pretorius Director (Mr. AWJ Pretorius pretoa@health.gov.za) is the chairperson of the Food Legislation Advisory Group (FLAG) and serves on a number of other committees that are relevant to the functions of the Directorate. Tel: +27 12 395 8799

Available Packaging

25 litre or 208 litre container(s)

Recommended Dilution Directions for concentrate

M101 - Deep Clean In use concentrate can be diluted for various applications

For intense deep cleaning purposes we recommend the following dilution ratio:

It is recommended that M101 - Deep Clean in Use Concentrate can be diluted up to 1:9 (i.e.1 part Deep Clean added to 9 parts water). The mixing solution is a guideline and is dependent on the required application and your evaluation of dirt to be cleaned. Allow 10 – 20 minutes activation time.

Rinsing is not required after application

The mixing solution is a guideline and is dependent on the required application and your evaluation of dirt to be cleaned.

Allow 10 – 20 minutes activation time.

If repackaging, use entire contents of container on the day.

Product Characteristics

Bacteria Specifications – 3.5 x10^8 cfu/ml

Bacteria Type - Blend of *Bacillus* spores

Salmonella not detected

pH Range - 8.0 - 9.5

Appearance -Tan liquid

Fragrance - No fragrance added

Stability - 2 years at 2°-35° C

Storage and Handling

Store in a cool dry place. Avoid eye and skin contact. Wash hands thoroughly with warm, soapy water after handling.

Safety of M101 - Deep Clean in Use Concentrate Microbial Blend

Toxicity testing conducted by outside laboratory revealed no acute oral toxicity, no acute dermal toxicity, and no acute inhalation toxicity at maximum dose. Acute dermal sensitization studies classify the M101 - Deep Clean in Use Concentrate consortium as non-irritating and it does not elicit a skin sensitization reaction.

Bio Cleaning Solutions, means Green Technology

This unique formulation meets the criteria for cleaner greener smarter program 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).

So it is safe for the user and the environment.

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Did You Know

To understand how any cleaning product works we must understand what dirt is or rather what it is comprised of.

Dirt is actually a layer of fine films made up of fats, oils, and grease (FOG), bacteria, fungi, dust mites, non-organic material and other organic micro-organisms. These films are bonded to each other and to the surface by amino and fatty acids.

FOG is a combination of plant and animal fats known as lipids as well as mineral oil products which are all organic in origin. The method used in most cleaning solutions is to emulsify FOG, which is to put it into an emulsion or solution such that it can be relocated elsewhere through rinsing.

The primary function of cleaning is to reduce dirt, dust, bacteria and moulds from surfaces.

The average household and workplace now has a collection of synthetic chemicals that would only have been found in a laboratory 50 years ago.

Modern technology now introduces Bio-Technology cleaning products that are based on enzymes and certain types of friendly bacteria, which are found in every living organism. They are nature's cleaning tools — they are biodegradable proteins that speed up vital biological processes. For example, enzymes in our stomach cut food into smaller pieces so it can be transformed into energy. When enzymes are finished with their work, they are absorbed back into nature's cycle.

Bio-Enzyme-based cleaners are increasingly being used instead of synthetic chemicals throughout the cleaning industry: in food service, hospitality health care, factories, schools, jails, households, kitchens, bathrooms, sporting venues and other large public facilities.

They are used to clean and deodorize carpets, kitchens and bathrooms, eliminate grease from cracks, grout, and hard floors, and even to keep urinals smelling fresh. They remove deposits on drain pipes, and clear drains and keep pipe lines free-running and odour-free. They do all this while being environmental benign.

Many people aren't aware that these ingredients already comprise almost 4 % of the chemicals used by janitorial/cleaning suppliers. Why would building service contractors use bio-enzymes to clean floors instead of synthetic chemicals? Bio-enzymes can perform better. They are completely biodegradable, which reduces your waste stream and the need for undesirable chemicals.

Among the many benefits of using bio-enzymes are their safety, long-lasting cleaning ability and cost-effectiveness. They go beyond cleaning well — the microbes continue to eliminate residual organics after the job is done and the cleaner has left. And, using them can reduce the risk, regulatory headaches and potential liability associated with using more hazardous chemicals.

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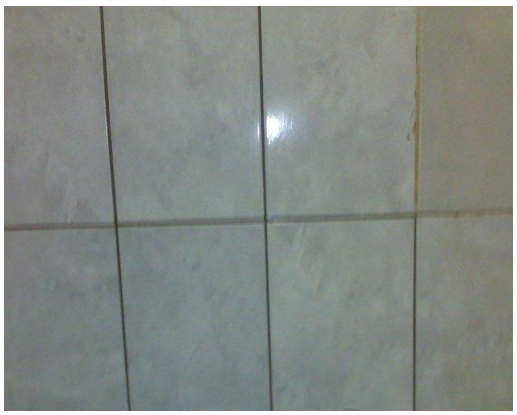
BEFORE AFTER



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Pineland Environmental Technology does not guarantee that the above products can be used as described without prior positive testing or the use of these products does not infringe third parties' patent rights.

Blended to specification and supplied by Pineland Environmental Technology

Eco Accreditation
Biological Based

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