

## BIO CLEANING SOLUTIONS

### Odorite™ Fem-Fresh

#### Biological control of odours & microorganisms associated with female sanitary ware



**Odorite™ Fem-Fresh** is a dry formulation for the biological control of odours associated with solid wastes contained in sealed sanitary bins. When waste materials from a range of processes are deposited in collection vessels to await disposal, chemical and biochemical reactions occur to stimulating the formation of malodours. In sealed bins with minimal or restricted air exchange, there is also the added problem that anaerobic microclimates form very rapidly in waste materials. This provides ideal conditions for certain nuisance microorganisms to bring about the partial breakdown of organic substrates and/or to cause one of many transformations of organic materials present.

The result is the production of volatile organic (and inorganic) molecules associated with malodour. Many of these molecules are soluble in water and will be carried in any moisture in the bin. When the bin is opened or lid removed during normal use, these unpleasant odours can then escape.

Emptying is often the only method for controlling these malodours, but service agreements, cleaning schedules and associated costs may not allow frequent enough emptying. This can leave a persistent background malodour and the impression of neglect and insanitary conditions. The use of masking agents and other chemicals is common, as is the use of biocidal products for the elimination of all microbial activity. Such products are of limited use and do not offer a contribution to an effective and environmentally friendly integrated waste management philosophy.

#### Applications:

- Wide range of sanitary bins (sanitary towels, tampons, diapers, etc.)
- Medical waste bins
- Kitchen and domestic waste bins
- Skips and compactors

#### Mode of Action:

When 20 gram **Odorite™ Fem-Fresh** is applied to the empty sani-bin, the first benefit to be noticed is the pleasant fresh fragrance. This fragrance is widely accepted for washroom products, slowly released from the natural carriers and compatible with the microorganisms. During use, any moisture present in the waste materials is drawn to the natural carriers and bound, along with any malodour molecules.

The specially selected microorganisms are activated and go to work in the presence of moisture breaking down the malodour molecules. The combined effect is odour control. When the **Odorite™ Fem-Fresh** is spent, it is easy and safe to dispose of. It can be safely handled with the container waste and disposed of by incineration, landfill and/or composting. It actually adds to the value in a landfill for natural organic degradation due to the natural microbes within the formula.

### How does *Odorite™ Fem-Fresh* eradicate microorganisms?

The killing time of organisms 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/sanitising/disinfection operation is not of the essence – duration and longevity for an extended period of time, in order to kill or eradicate potentially harmful microorganisms is fundamental. From a hygiene and safety point of view, one may need to sanitise/ disinfect when cleaning a used sanitary bin. However, the microbial action continues working for longer than what the SABS test methodologies describe or suggest.

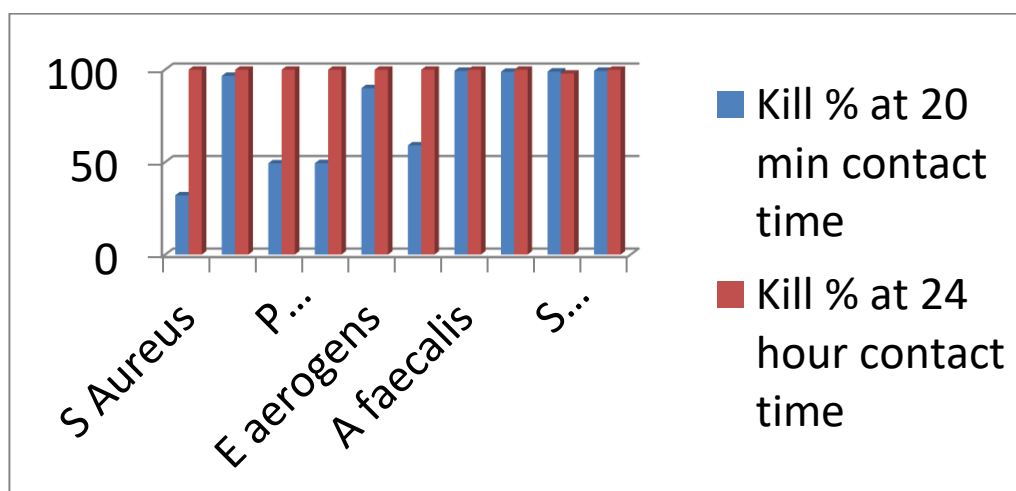
*Odorite™ Fem-Fresh*, by contrast, is a consortium of Bacillus-containing deodorising, sanitising product. It is different to that of chemicals designed to deodorise. The Bacillus will outcompete competing microorganisms for the same food source as these are live bacteria that need to compete with other (harmful) microorganisms for available food sources hence the longer contact times required by comparison to the theoretical one minute chemical based products that have a short half-life. The pattern that bacillus uses (as seen in the challenge test study) to eradicate or out-compete microorganisms is shown to be due to its morphological structure.

In other words, the Bacillus is a colony forming unit (it multiplies at a phenomenal rate), and other microorganisms will move away from that site of the food source.

DATA SHEET	
Benefits	Directions for Use
<ul style="list-style-type: none"> <li>Contains <i>Odorite™ Fem-Fresh</i> bio technology to bind to odour molecules</li> <li>Contains a complex consortium of safe microorganisms (<i>Bacillus Subtilis</i>) specially selected for their ability to metabolise organic molecules associated with malodour and to outperform harmful microorganisms causing their death</li> <li>Contains a blend of natural mineral carriers well known for their ability to bind moisture and volatile inorganic molecules</li> <li>Pleasant fresh fragrance</li> <li>Convenient packaging for ease of use</li> <li>Easy and safe to dispose of</li> <li>Long lasting and cost effective</li> <li>Eco-friendly</li> </ul>	<ul style="list-style-type: none"> <li>Use 20 gram per sealed bin with a capacity between 10L or 20L</li> <li>For larger bins, use additional scoops in relation to a 10L bin</li> <li>Each 20 gram scoop will remain effective for up to 4 weeks during use</li> </ul>

Graphic representation of *Odorite™ Fem-Fresh's* superiority in eradicating common microorganisms found in female Sanitary Bins:

Eradication efficacy of Fem Fresh against 10 different microorganisms @ Soft dilution rate



The killing efficacy (PK) of Fem Fresh 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 48hours, the killing efficacy could not be calculated as the control counts were TNTC (Too Numerous to Count).

**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.**

## PRODUCT CHARACTERISTICS

- **Shelf Life** : 1 year
- **Fragrance** : Pleasant - Fresh
- **Total Bacterial Count** :  $8 \times 10^8$  cfu/g

***Do not use simultaneously with disinfectants as this will defeat the objective of live bacteria in the bin.***

### Packaging:

1 kg tamper proof bucket.

### Storage and handling:

- Store in a cool, dry place
- Avoid inhalation
- Avoid eye contact
- Do not ingest
- Wash hands thoroughly with soapy water after handling
- The product does not require any mandatory hazard labelling according to EU Council Directives 67/548/EEC, 1999/45/EEC and 2000/54/EC

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