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20<sup>th</sup> August, 2003

Report # 2

Attention: Mr Leon Naus

Ha-Ra Cleaning Products  
PO Box 1356  
Noosaville Qld, 4566

Dear Sir

**Re: Assessment of Ha-Ra Microfibre cleaning cloths in relation to the reduction of microorganisms on flat stainless steel surfaces.**

### Aim:

The aim of the assessment was:

- to demonstrate the ability of different Ha-Ra cleaning cloth systems to remove bacteria from naturally and artificially contaminating flat stainless steel surfaces, and
- to demonstrate that washing the cloths in water removes all microorganisms so that transfer to another surface does not occur. (ie. Carry Over)

### Scope:

7 Cloth systems were assessed as detailed below:

- Ultra + Natura
- Ultra + Natura + Dry Absorbing
- Ultra + Natura + Alphaguard
- Ultra + Natura + Brilliant Polishing II
- Sapphire + Brilliant Polishing II
- Window Cleaner
- Sapphire

### Method:

- All stainless steel surfaces were decontaminated with 70% ethanol and allowed to air dry
- Surfaces were divided into areas of 100cm<sup>2</sup> and each area was contaminated either naturally with raw meat or artificially with *Staphylococcus aureus*, *Listeria monocytogenes* or *Escherichia coli* in the level of 10,000 to 100,000,000 cells per 100cm<sup>2</sup>. Cells were evenly distributed over the 100cm<sup>2</sup> area.
- The area of each type of contaminated surface was swabbed with sterile cotton swabs to determine the number of cells present before cleaning.
- The contaminated surfaces were cleaned with each cleaning system and then a swab was taken of the surface.
- The used cloth was wiped onto a clean stainless steel surface prior to and after washing to see if any carry over of microorganisms occurred.
- Counts of the bacteria recovered from the swabs were performed on Plate Count Agar and incubated at 37 degrees celsius for 48 hours.

### Limitations of test:

- Not all organisms may be recovered from the stainless steel surface and of the organisms recovered, not all may be recovered from the swab.


### Findings:

- ❑ The HA-Ra cleaning systems were found to successfully remove any food residue from flat stainless steel surfaces as well as remove bacteria.
- ❑ Regardless of the level of contamination (which varied from 10,000 to 10,000,000 cells per 10cm<sup>2</sup>) the number of cells recovered after cleaning was <10 per 10cm<sup>2</sup>. This complies with guidelines from the US Public Health Service which recommends that adequately cleaned and sanitized food service equipment have not more than 100 colonies per surface area of equipment sampled (ie. not more than 10 per 10cm<sup>2</sup>.) (Ref: *Compendium of Methods for the Microbiological Examination of Foods 4<sup>th</sup> Edition*)
- ❑ With the artificially contaminated surfaces, the initial levels of bacteria varied between 100,000 and 10,000,000 cells per 10cm<sup>2</sup> depending on the organism. The levels of bacteria after cleaning were less than 10, indicating that a 10,000 to 1,000,000 cell reduction occurred respectively.
- ❑ There was some 'carry over' between cloths that had been used to clean a contaminated surface which were then subsequently used on a sterile surface, however the levels of cross contamination were insignificant. (<10cells per 10cm<sup>2</sup>). There did not appear to be a significant difference in the level of 'carry over' between the unwashed and the washed cloths.
- ❑ The HA-RA Cleaning Systems were graded in the following order based on their performance in the trial of reducing bacterial levels on surfaces, (however it should be noted that there was no significant difference between all the cleaning systems):
  - Ultra Natura Alphaguard
  - Ultra Natura Dry Absorbing
  - Ultra Natura Brilliant Polishing II
  - Ultra Natura
  - Sapphire
  - Window Cleaner
  - Sapphire Brilliant Polishing II
- ❑ The results are detailed in Appendix 1.

### Conclusions:

- ❑ The HA-RA cleaning systems do not sterilize surfaces however they were found to remove all food particles and soil on flat stainless steel surfaces whilst notably reducing the number of microorganisms present to <10 cells per 10cm<sup>2</sup>.
- ❑ The HA-RA cleaning systems simplify the cleaning process by using a 1-step system, which removes food particles at the same time as removing bacteria.
- ❑ There was very little 'carry over' from a cloth used to clean a contaminated surface to a sterile surface indicating that washing in water removes most organisms or the organisms become trapped in the fibres.
- ❑ There was no significant difference in the 'carry over' between the washed and unwashed cloths.

Yours sincerely,



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