



## PRODUCT INFORMATION SHEET

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Re-Issue Date:31/07/23  
Issue No 4

# FREEDOM CONCENTRATE

## Quaternary Ammonium Based Sanitiser

Active Constituent : 80 g/L Didecyl Dimethyl Ammonium  
Chloride



### Description

- ❖ FREEDOM is a clear coloured liquid that contains a combination of cleaning agents and highly effective quaternary sanitisers. It has been specially formulated to leave cleaned surfaces germ free. FREEDOM is specifically used as the final rinse sanitiser at the end of the standard wash program

### Features and Benefits

- ❖ Improved sanitising performance at lower use concentrations.
- ❖ Greater hard water tolerance sanitising activity at lower use levels.
- ❖ Superior organic soil tolerance.
- ❖ Freedom is suitable for use in food preparation areas

### Directions for Use

- ❖ FREEDOM is used at a dose rate of 1 : 400 to provide 200 ppm of active quat. At this concentration it has F.D.A. clearance to sanitise without the requirement of a potable water rinse. ( See information listed below )
- ❖ FREEDOM can be applied by spraying, fogging or mopping onto the required surface
- ❖ FREEDOM is also suitable for use in a foot bath at a dilution rate of 1 : 100

### Packaging

- ◆ 5 Litre polyethylene drums ◆ 15 Litre polyethylene drums

### Health Hazard Information

- ❖ See separate Health and Safety Data Sheet, available on request.

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- ❖ Bardac 2280 which is the sanitizing product in Freedom has been cleared by the FDA, Title 21, Code of Federal regulations, Section 178.1010, Food additives, for sanitizing at a concentration of 150 ppm without the requirement of a potable water rinse. In addition, the use of this sanitizing solution is consistent with the current practices of the Grade "A" Pasteurized Milk Ordinance, 1978 Recommendations of the United States Public Health Service. The high hard water tolerance of Bardac 2280 allows the use of a lower concentration ( 150 ppm use-level ) at a hard water ceiling of 400 ppm. In contrast, the alkyl benzyl quaternaries when used as sanitizers must be used at 200 ppm
- ❖ COMPARISON OF THE EFFECTIVENESS OF TWO AUSTRALIAN CLEANERS (FREEDOM AND HWD128) Charles P. Gerba, Ph.D. Sheri Maxwell, B.S. Department of Soil, Water and Environmental Science University of Arizona, Tucson, AZ

**Objective**

- ❖ A comparison study of two Australian cleaners was conducted to determine the difference, if any, in germicidal and residual effects of the Freedom cleaner and the HWD128 cleaner. Two women's public restrooms were used in this comparison study. Each restroom was cleaned by a qualified Swisher technician, one restroom with the Freedom cleaner, the other restroom with HWD128 cleaner

**Materials and Methods**

- ❖ A Swisher technician cleaned in a typical manner using the Freedom cleaner in one restroom and the HWD128 cleaner in the other restroom. Eight surfaces were then sampled in each restroom on day 1, 2, 5 and 7. Surfaces that were sampled consisted of the hot water faucet handle, top of toilet seat, soap dispenser, flush handle, floor in front of toilet, inside door handle, sink drain and paper towel dispenser handle. Restroom surfaces were sampled by swabbing a 10cm<sup>2</sup> area using a sterile cotton swab (Becton Dickinson, Sparks, MD) moistened in Lethen Neutralizing Broth (Difco, Sparks, MD). The swab was then returned to the neutralizing broth, vortexed for 30 seconds and removed. Heterotrophic plate count bacteria (HPC) were enumerated by spread plating 0.1 mL of the appropriate dilution of the sample onto duplicate R2A plates (Difco, Sparks, MD), and incubated at room temperature for 5 days. After incubation, colonies were counted and recorded. A background analysis was taken the day before testing began to get a base count of bacteria on each site. At the time of the background analysis the restroom had been cleaned using current University maintenance procedures.

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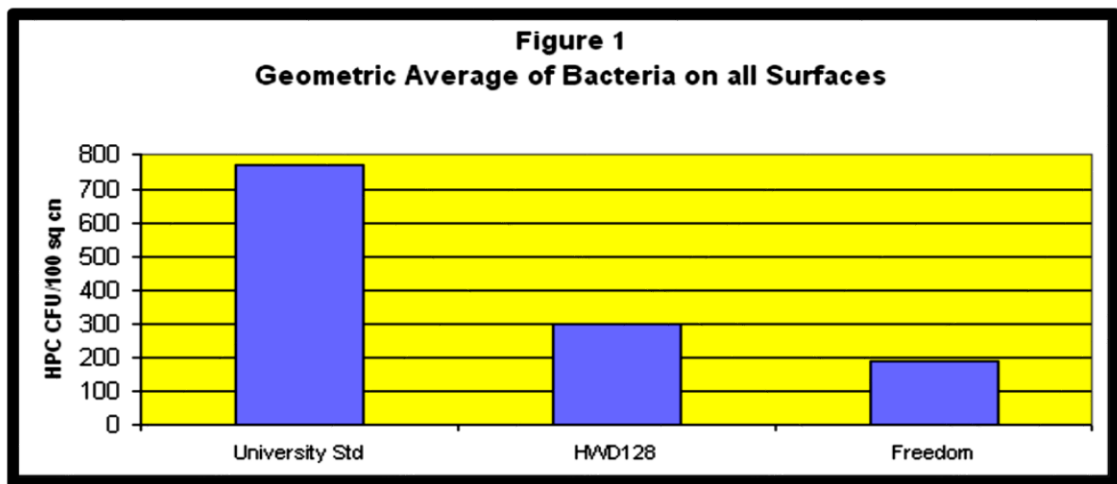


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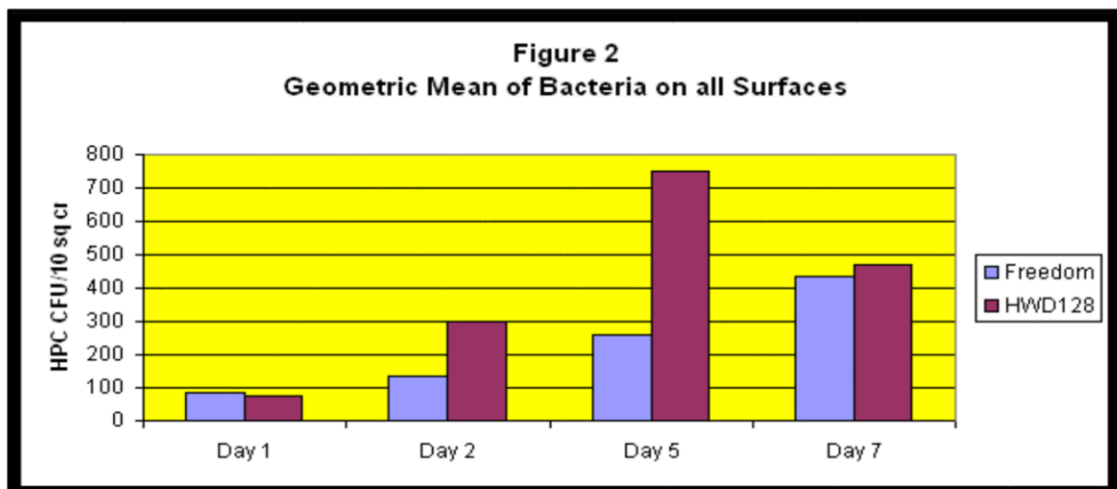
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### Results and Discussions

- ❖ The geometric mean of total numbers of bacteria on all sites over the 7-day sampling period were compiled to compare the Freedom and HWD128 cleaners. University standard is the geometric mean for all sites on a single day. As in previous studies, the Swisher cleaning technique, regardless of cleaner used is proven to be superior over other commonly used cleaning methods as shown by the results in Figure 1.



- ❖ The data for bacterial numbers arranged by individual days comparing the Freedom and HWD128 cleaner can be found in (Figure 2).



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### Results and Discussions(con )

- ❖ The average and standard deviation for all sites and days for the Freedom cleaner and theHWD128 cleaner is listed in Table 1.

Table 1. The average and standard deviation of all sites and days for Freedom and HWD128 cleaner

	FREEDOM	HWD128
Average	1033	3261
Standard Deviation	±2123	±11283

- ❖ Bacterial numbers per 10cm<sup>2</sup> are shown in Table 2 according to individual sites, day 1, 2, 5 and 7 and cleaner used. Also recorded in the following table is the average and standard deviation for the Freedom and HWD128 cleaner.

	Day 1		Day 2		Day 5		Day 7	
	Freedom	HWD	Freedom	HWD	Freedom	HWD	Freedom	HWD
Faucet Handle	30	20	10	60	30	5.50E+03	25	325
Toilet Seat	10	10	20	50	65	65	75	100
Soap Dispenser	20	10	10	40	55	220	70	170
Flush Handle	20	30	370	150	1.00E+03	1.13E+03	1.77E+03	345
Floor	4.60E+03	400	1.22E+03	2.35E+03	2.10E+03	2.68E+03	1.03E+04	550
Door Handle	30	90	840	60	370	30	275	105
Sink Drain	230	280	320	5.80E+03	130	1.22E+04	555	6.35E+04
Towel Handle	830	1.94E+03	420	4.66E+03	1.80E+03	1.14E+03	5.56E+03	335
Average	721	348	401	1646	694	2871	2316	8179
Standard deviation	±1592	±660	±435	±2367	±842	±4191	±3733	±22354

- ❖ The overall average bacteria numbers for the HWD128 cleaner is approximately 3 times higher than that of the Freedom cleaner, the overall geometric mean of bacteria numbers for the HWD128 cleaner is also higher by approximately 1 ½ times. However, statistically, there appears to be no significant difference between the two cleaners as shown in Table 1 and Table 2.

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