

# Clinell sporicidal Wipes - Water Loading Tests

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## Description

Clinell sporicidal wipes, supplied by Gama Healthcare, are activated for use by soaking in water then wringing of the excess water. The following work was carried out to determine the "activity" of the wipes after dosing with varied quantities of water in order to mimic the effect of being held under a running tap prior to the wipe being used.

## Results

The testing protocol is described below:

The test was carried out using wipes from the same pack of large wipes. The wipe is immersed into a rectangular glass dish containing a specified amount of water.

Measurements in the laboratory show that the volume of water emitted from an average tap is approximately 25 ml per second. The volumes of water correspond to tap soaking times of between 2 and 6 seconds. Additionally a large volume of water was used – 10 litres – to correspond to a very long exposure under a tap.

The wipe is wetted, turned over four times to ensure total wetting, removed from the solution and wrung by hand. The total time of immersion is kept constant at 10 seconds. The wrung out wipe is immediately transferred to a beaker containing 500 mls of water, the wipe being fully immersed. The wipe is left for 10 minutes with occasional agitation with a glass rod. At the end of the 10 minute period, 100mls of the solution is transferred to a pre-prepared conical flask, and the liberated iodine immediately titrated with standard 0.2N sodium thiosulphate solution. The titre is recorded.

Four repeats are carried out at each loading. (Two wipes are tested without pre-loading with water; these are immersed straight into 500mls water, left for 10 minutes, and titrated as normal. This result is the total activity of a wipe).

The pre-prepared flasks contain 10mls of 10% potassium iodide solution, 20mls of 2% phosphoric acid solution, 2mls of 2% Ammonium molybdate, and a small spatula of iodine indicator.

Additionally, two samples were subjected to a "bucket" test. Two wipes were immersed in a 10 litre bucket filled with water, the wipes were allowed to wet, wrung out by hand, and tested as above. This is thought to represent a more "real world" test. The total immersion time in this bucket test is around 6 seconds.

The results are shown below:

Total Activity of wipe = 15.4 mls and 15.5 mls of titrant

<b>Loading</b>	<b>Titre 1</b>	<b>Titre 2</b>	<b>Titre 3</b>	<b>Titre 4</b>	<b>Average</b>
50mls	10.6	9.9	11.5	10.6	<b>10.65</b>
75mls	10.3	10.8	10.3	10.8	<b>10.25</b>
100mls	10.0	10.6	8.8	9.2	<b>9.65</b>
150mls	9.8	9.6	10.3	9.3	<b>9.75</b>

The results are expressed as % activity against an unsoaked wipe below:

<b>Water Loading</b>	<b>% Activity Retained</b>	<b>Comment</b>
None	100%	
50 mls per wipe	68.9%	
75 mls per wipe	66.3%	
100 mls per wipe	62.5%	
150 mls per wipe	63.1%	
"Bucket" test	75.1%	6 second immersion in 10 l water.

The results indicate that overloading with water does not markedly affect the capacity of the wipe.

The wipes appear to lose 30% of their potential activity quickly, but after this first loss the wipes are less sensitive to further loading with water.

The actual activity of a wipe in the 10 minute soak test is equivalent to **0.587** grams per wipe calculated as peroxyacetic acid.

## Conclusions

- In summary, the wipes quickly lose around 30% of their activity within the first few seconds of wetting. After this first loss, excess water does not deplete the wipes severely.
- "Real" world tests indicate that between 70% and 80% of the wipe activity is retained by a normal immerse /wet / hand wring procedure.
- Total wipe activity is equivalent to 0.587g of peroxyacetic acid

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End of Report