



Abbott Analytical



Consulting Scientists to the Disinfectant Industry

Certificate of Analysis

Sample(s) : One sample of Sterizar

Received from: Creative Supply Solutions Ltd. Malvern Mill, South Wing, Earl Mill, Dowry Street, Oldham, OL8 2PF

Date received: 23 April 2010 **Date tested:** 26 April 2010

Certificate no: 10D.115HH.CSS **Certificate date:** 29 April 2010

Sample ref: 10D/115 **Page:** 1 of 3

Analysis required: Adaptation of EN 12791 to determine residual effect of Sterizar on the hands after 6 hours normal usage post rub with product

Principle of test:

The number of test organisms released from the fingertips of artificially contaminated hands is assessed before and after using the hygienic handrub.

A number of subjects has to be used because of the possible variation in bacterial flora found on human skin. In this case a total of ten healthy adults were chosen comprising of two teams of five, each one carrying out the test procedure in precisely the same way as the others.

1) Application of the contamination fluid

Each of the 10 subjects was asked to wash their hands for 1 minute in soft soap to remove natural commensal organisms and then dry them thoroughly on a paper towel. Immediately after drying, each of the 12 subjects was asked to rub their fingertips, including the thumbs, for 1 minute on the base of a petri dish (a separate dish for each hand) containing 10ml of maximum recovery diluent (MRD) without neutraliser, in order to assess the release of test organisms before treatment of the hands. Each of five subjects was asked to spray approximately 3ml of Sterizar into the cupped hand and rub for 1 minute onto the skin up to the wrists in accordance with the standard handrub procedure. The second batch of five volunteers were not treated and acted as the control group. The ten volunteers were then asked to go about their normal business.

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2) Postvalues

Each of the ten subjects were recalled after 6 hours of the working day to test for residual bacteria by rubbing the fingertips on the base of a petri dish containing 10ml of MRD with neutraliser for 1 minute using a separate petri dish for each hand. Then 1ml of each of the undiluted sample fluids was placed in a petri dish and covered with 15ml of TSA mixed thoroughly and allowed to set. Plates were then incubated overnight at 37°C and examined for growth of the test organism.

3) Calculation

The number of colony forming units (cfu) per plate for each dilution was recorded and the number of cfu/ml of sample fluid calculated.

From the difference between the individual combined log prevalue and the log postvalue a log reduction factor is established for each subject. Then the two arithmetic means of all individual log reduction factors are calculated for both the reference and the test procedure. In this test we are primarily interested in demonstrating the presence or absence of a residual effect on the ability of Sterizar to kill bacteria after a given time period after application to the skin. The numerical reduction rates are recorded in the tables below.

Results:

Handrub with Sterizar

Count at	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Mean count
Time 0	1040	970	1440	860	1020	1066
6 hours	360	210	380	140	230	264

Untreated control group

Count at	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5	Mean count
Time 0	15200	20400	18600	27200	14400	19160
6 hours	71200	53400	48400	37600	62400	54600

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Conclusion:

Sterizar shows residual activity post application giving an average of a 2.31 log reduction in numbers over the untreated hands during the 6 hour test period showing efficacy against bacteria even after contact with the environment on volunteers hands during the period from infection to final examination.

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