



## INTRODUCTION

360° Product Testing has been retained to perform efficacy testing of a supplied Sanitization Product.

To determine sanitization efficacy, the DEVICE was tested by three methods on a glazed ceramic surface dosed with Escherichia Coli.

### Device under Test

The Sanitization Product is a ... The device is of a plastic construction with a single button on the handle, and a side located child safety lock switch.



In order to activate the device, the button must be pressed twice and a chime is heard. Pressing the power button again turns the device off, and again a chime is heard. Small LEDs that surround the button also give indications on working status:

*Charging / Low Power = Flashing Pulsing Red Light,  
Stand-by = Dimming White Light,  
Working = Pulsing White light pulsing,*



**Figure 1: Status light indicators for DEVICE wand**

DESCRIPTION OF DEVICE OMITTED



**Figure 2: DEVICE when activated**

## Test Process and Findings

Prior to testing, Escheria Coli bacterium were placed on nutrient agar petri dishes and incubated for 24-hours. Resultant colonies were used to swab onto a sanitized glazed ceramic tile. The tile's right side was control, and the left had treatment with the Sanitization Product.

To create a homogenous layer of E. Coli contaminant, the application swab was spread in a continuous, repeated motion back and forth, over two adjacent rectangles marked in black, each 3/8" x 1", and 1/2" apart from one another.

Prior to treatment, the now contaminated black rectangular area on the control side of the tile was wiped left-to-right in a single motion, and then wiped on the top portion of a sterile nutrient agar petri dish. Using the wiping swab, three lines the length of the dish, vertically separated from one another by roughly 5/16" were made on the agar.

After a treatment with the Sanitization Product, the METHOD side black rectangular area of the tile was also swabbed using an equivalent process. That METHOD side swab was placed on another set of three lines on the bottom portion of the same petri dish as above.

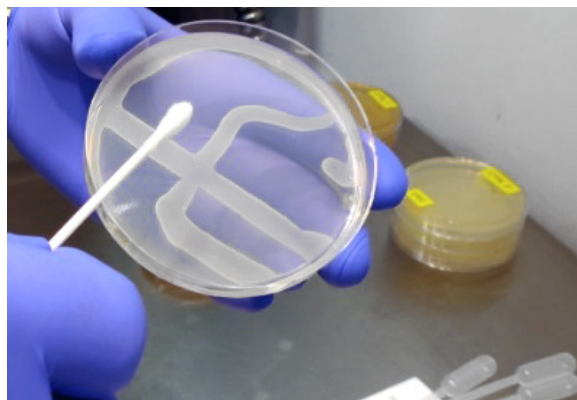


Figure 4: E. Coli colonies post incubation

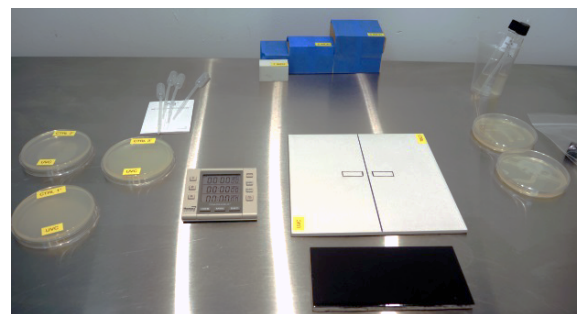


Figure 4: Ceramic tile with marked rectangles

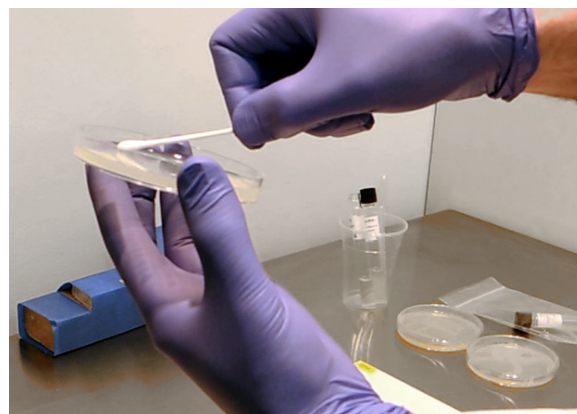


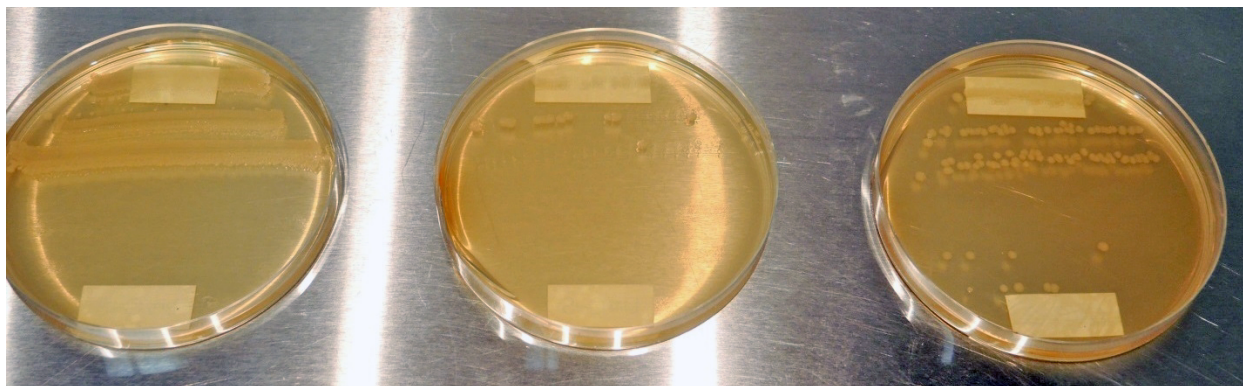
Figure 5: Ceramic tile being dosed with E. Coli and then being treated.

The treated side of the tile received TREATMENT. The described process was repeated for each of ...

Figure 6: A swabbed tile being plated on a petri dish

After plating the tile swabbed contents on the petri dishes, the dishes were incubated for 24-hours.





**Figure 7: E. Coli colony growth on the petri dishes after 24-hours incubation.**

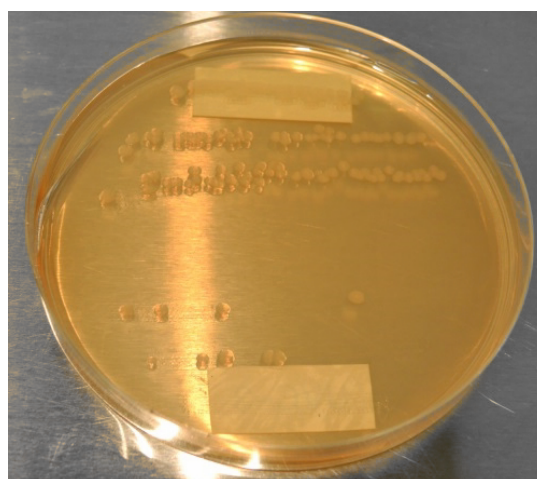
**Top of the dish was swabbed using the untreated, control side rectangle area.  
Bottom of the dish was swabbed using the METHOD treated rectangle area.**

**Above left-to-right: Methods 1 ,2, & 3 TREATED contaminated tile.**

In **Figure 7**, the upper portions of the petri dishes show that the untreated portions of ceramic tile had many viable E. Coli bacterium that formed colonies on the agar (i.e., patchy white dots).

The first two TREATMENTS (i.e., the two left dishes), no E. Coli colonies formed at the bottom of the petri dishes. This indicates that no E. Coli were viable after treatment with the DEVICE.

The third treatment (Figure 7's far right petri dish), roughly 139 colonies grew on the control, top portion of the agar plate. Only 9 colonies grew on the treated bottom portion. This indicates roughly 93.5% of the E. Coli were no longer viable after the third treatment type with the DEVICE.



**Figure 8: E. Coli growth on plate, control vs sanitized, METHOD 3.**

## Conclusion

- TREATMENT types 1 and 2 with the Sanitization Product demonstrated 100% efficacy at killing E. Coli bacterium.
- TREATMENT types 1 and 2 with the Sanitization Product demonstrated ~93.5% efficacy at killing E. Coli bacterium.

Reviewed By: ...