



# FINAL REPORT

## PROTOCOL

Efficacy study of antimicrobial granule-filled pouches

## PRODUCT TESTED

The 1 Virus Buster Invisible Mask

## EMSL ORDER NUMBER

122004670

## TESTING LABORATORY

EMSL Analytical, Inc.

3356 W. Catalina Dr.

Phoenix, AZ 85017

Phone: (602) 276-4344

Web: [www.emsl.com](http://www.emsl.com)

## SPONSOR

K W Technology, Inc.

3033 E. Valley Blvd. #128

West Covina CA 91792

## STUDY START DATE

October 19, 2020

## STUDY COMPLETION DATE

November 2, 2020





## Test Summary

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**Project Title:** Efficacy study of The 1 Virus Buster Invisible Mask against *Staphylococcus aureus*

**Study Methods:** Antimicrobial granule-filled pouches enclosed in chamber with *Staphylococcus aureus* inoculated slide carriers

**Products Tested:** The 1 Virus Buster Invisible Mask

**Sponsor:** K W Technology, Inc.

**Test Conditions:** Ambient room temperature

**Challenge Organism:** *Staphylococcus aureus*

**Exposure Times:** Inoculated slide carriers were exposed to three pouches for two hours in a sealed chamber.

### Study Dates and Facilities

All analytical testing was performed at EMSL Analytical, Inc. in Phoenix, Arizona from date 10/19/2020 to 11/2/2020.

### Record Retention

All raw data and a copy of the final report will be archived and stored by EMSL Analytical, Inc. for 5 years.



## Objectives

To determine the efficacy of The 1 Virus Buster Invisible Mask against *Staphylococcus aureus* inoculated slides with a 2 hour exposure.

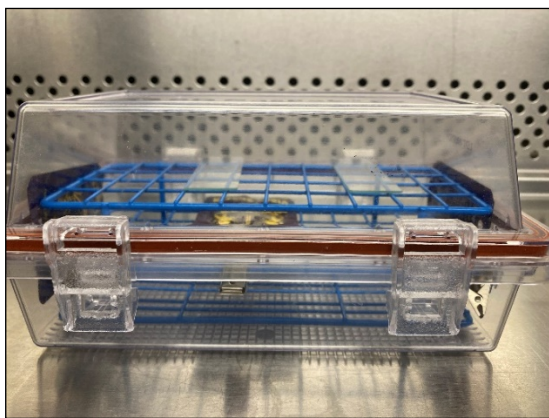
## Test Method

### Inoculum Preparation

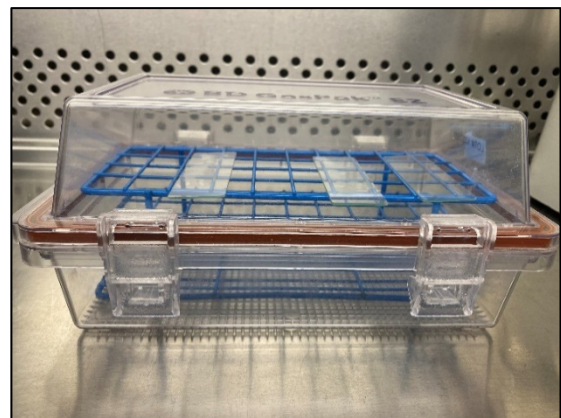
A bacterial culture of *Staphylococcus aureus* was grown from a pure stock on tryptic soy agar supplemented with 5% sheep blood (TSAB) and incubated at  $36\pm 1^{\circ}\text{C}$  for 24 hours. The culture was used to harvest colonies which were suspended into 10 mL of tryptic soy broth (TSB) and incubated at  $36\pm 1^{\circ}\text{C}$  for 24 hours. This concentrated suspension was diluted in 9 mL of sterile buffered water for the final 10% solution used to inoculate the glass carriers.

### Procedure

Individual sterile glass surfaces were inoculated with 100  $\mu\text{L}$  of the microbial suspension and placed on rack to air dry at room temperature inside a biosafety cabinet. Inoculated test slides were then placed into a chamber with three pouches for two hours. Control slides were placed into a chamber without pouches for 2 hours. Immediately following the 2 hour exposure, each carrier was then placed into a centrifuge tube with sterile buffered water and vortexed to recover any remaining microbes. The samples were serially diluted, plated onto Petrifilm AC plates and incubated for 24-48 hours at  $36\pm 1^{\circ}\text{C}$ . A total of three separate runs were performed in duplicate.



**Figure 1: Inoculated slides with 3 Virus Buster pouches exposed for 2 hours**



**Figure 2: Control slides without Virus Buster pouches**



## Experimental Results

**Table 1.** Average of *Staphylococcus aureus* recovery from duplicate test surfaces

Test Run	Control Bacterial Recovery CFU/Test Surface (average of 2 surfaces)	Sample Bacterial Recovery CFU/Test Surface (average of 2 surfaces)
1	14,000	541
2	62,000	68,500
3	124,000	72,500

**Table 2.** Log kill and percent kill results of inoculated carriers

Control Average (3 test runs)	Sample Average (3 test runs)	Log Reduction	Percent Reduction
66,800	65,464	0.287	98.00

## Conclusions

The 1 Virus Buster Invisible Mask showed a 98% reduction in *Staphylococcus aureus* after a 2 hour exposure to 3 pouches with a log reduction of 0.287.



## Signatures

Study Performed by:

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Laboratory Director

11/3/2020

Date

*Mary-Ann Cangco*

Mary-Ann Cangco  
Microbiology Manager

11/3/2020

Date

Report Issued by:

*Michelle Wilson*

Michelle Wilson  
Laboratory Director

11/3/2020

Date