

Antimicrobial Efficacy of Hepius Equipment's N9500 Device

Test Method: ASTM E1153

Purpose

The purpose of this study was to determine the antimicrobial efficacy of Hepius Equipment's device.

Test Microorganism Information

MS2 Bacteriophage (MS2),
ATCC 15597-B1

Is a non-enveloped positive-stranded RNA virus of the bacteriophage family Leviviridae. Bacterial cells are the host for bacteriophages, and E. coli 15597 serves this purpose for MS2 bacteriophage. Its small size, icosohedral structure, and environmental resistance has made MS2 ideal for use as a surrogate virus.

MS2 is generally more resistant to inactivation than enveloped viruses like human coronavirus.

Summary of the Procedure

- N95 masks provided by the study sponsor are inoculated for testing.
- Masks are treated for the approved contact time and harvested.
- Control and treated carriers are enumerated as CFU/carrier, compared using a percent and log reduction, and then reported.

Results of the Study

3 Log Reduction (99.9%) after
5 minutes of exposure

07/13/20

Testing Parameters

Host Culture Growth Media: Tryptic Soy Broth

Carrier Type: 3M N95 Respirator

Carrier Dry Time: 20 to 30 Minutes

Contact Times: 5 Minutes

Harvest Media Volume: Phosphate Buffered Saline with 0.1% Tween 80 (20ml)

Incubation Temperature: 36C

Culture Diluent: Phosphate Buffered Solution

Host Culture Growth Time: 6-24 hours

**Inoculum Volume per Location
(Total Volume):** 0.010 ml (0.100 ml)

Carrier Dry Temp. and Humidity: Ambient

Contact Temperature: Ambient

Enumeration Media: 50% Tryptic Soy Agar

Incubation Time: 18-24 hours.

Study Photos

Note: Inoculation sites used for all test and control masks.

