1.0 PREFACE

The ZONOsanitech, LLC sanitizing cabinet, the ZONO, meets the Association of Official Analytical Chemists (AOAC) definition of sanitizing of non-food product surfaces that requires a contamination reduction of 99.9% or a three (3) log kill of bacteria. Following the United States Environmental Protection Agency (EPA) recommended method DIS/TSS-10, Sanitizer Test for Inanimate Surfaces, (exposure time modified), testing demonstrated kill efficacy for Methicillin-resistant Staphylococcus aureus (MRSA) (skin pathogen); Staphylococcus aureus (S. aureus) (skin pathogen); Escherichia coli (E. coli) (gastrointestinal pathogens); Streptococcus pyogenes (S. pyogenes (respiratory pathogens); Shigella dysenteriae (S. dysenteriae) (gastrointestinal pathogens); Salmonella enteritidis (S. enteritidis) (gastrointestinal pathogens); and Pseudomonas aeruginosa (P. aeruginosa) (gastrointestinal pathogens).

The ZONO is a viable alternative to heat based or chemical sanitizers. The sanitizing process is compatible with porous, nonporous and semi porous surfaces: natural and synthetic surfaces, plastic, wood, ceramic, glass, paper, metal, leather, and fabric. The technology does not leave a residue, impact the integrity of the item (electronics with batteries or electrical devices) or damage the surface. After each cycle, items are ready for immediate use. The sanitizing process is safe and does not harm the environment.

2.0 INTRODUCTION

The objective of this study is to evaluate the efficacy of the ZONO's ozone sanitizing process to meet the AOAC definition of sanitizing non-food product surfaces following the EPA recommended method DIS/TSS-10, Sanitizer Test for Inanimate Surfaces.

2.1 ZONO OPERATION

The ZONO, developed by ZONOsanitech, LLC, is an environmentally friendly sanitizing process that generates ozone (O3) and humidity inside an airtight stainless steel cabinet on site using electricity, ambient air, and tap water. No heat or chemicals are used in the cabinet. Items for sanitizing are placed onto racks or suspended on hooks or rods inside the ZONO. When the magnetic lock on the door is engaged, and the sanitizing cycle is initiated, an ultra-violent light generates ozone to a designated level. Once this level is reached, the humidity is raised to a designated level, and the ozone and humidity together create a sanitizing environment. After the sanitizing is completed, the ozone is destructed into oxygen (O2) inside the airtight cabinet. There are no toxic or hazardous residues or waste products associated with the process, only ambient air and water. Since the ozone reverts to oxygen, surfaces do not require post-application rinsing to eliminate potentially harmful residues, nor do they require careful handling as is required when chemical sanitizing concentrates are used.

The ZONO is designed to monitor ozone levels inside and outside of the cabinet during each cycle, with safety stop measures in the event of the detection of ozone to the environment or unsatisfactory levels of ozone or humidity during operation.

ZONOsanitech, LLC is regulated by the U.S. EPA as a manufacturer of a pesticide control device pursuant to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)[i]. ZONOsanitech, LLC's EPA registered establishment number is 86882-GA-001. ZONOsanitech, LLC adheres to strict EPA regulations with regard to labeling, production, record keeping, and packaging and import/export requirements.

Pages 4-24 redacted to save space.

4.0 SUMMARY OF STATISTICAL ANALYSIS

In order to perform a meaningful statistical analysis of the available data, log transformation was performed to create homogeneity in data. After transforming data, bar graphs were generated for each organism challenged to three different materials types. Similarly, an unpaired T-test was also performed for each organism tested against each material type. The graphs (1-3) and associated charts clearly indicated that there was a difference of 3 log among treated and non-treated materials challenged by MRSA, E.coli, and S. pyogenes.

The t-test tables (1-3) clearly showed highly significant differences between treated and non-treated materials in the case of each organism. It is evident from the tables (1-3), that there was a high t-values in each material type and translated into very high significant probability (P) value which was <0.001. This clearly indicates that all the treatments were statistically highly and significantly different than the non-treated materials.

4.5 STASTICAL DATA INTERPRETATION

Data Transformation: In each case, we transformed data to create homogeneity among data set for comparison. After treatment in the ZONO, the majority of the data points were "0" as compared to control where data points were in several thousands. To reduce the homogeneity of error,

variance data was transformed using log 10 transformation by adding value of "1" to each data point (treated and non-treated) and then transformed.

5.0 CONCLUSION

In conclusion, the ZONO is a viable alternative to chemical or heat based sanitizers. The ZONO meets the A.O.A.C. definition of sanitizing non-food product surfaces, killing 99.9% of common bacteria as described in this report, based upon the EPA recommended method DIS/TSS-10, Sanitizer Test for Inanimate Surfaces (exposure time modified).

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[i]Respectfully submitted,

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Aerobiology Laboratory

3/14/2011