MICROCHECK

Mr. Charles Veach
World Health Alliance International, Inc.

28 August 2007

Dear Charles,

Here is the final report for analytical work performed on the Silverdyne product delivered by Express Mail at 0930 16 July 2007. The analyses will be charged to the credit card number provided.

We will mail you this report and the complete results.

Original samples and all subcultures associated with this report will be retained for 9 days after today's date. To make arrangements to archive samples and subcultures longer than 9 days, please call.

As part of our dedication to continuous improvement, we encourage you to share any suggestions or feedback you might have that would enable us to serve you better. Please send your suggestions to susan@microcheck.com or call Susan Sinclair at 866-709-6600, ext. 23.

As always I encourage you to call me at (802) 485-6600, ext. 22 with any questions you may have.

Thanks for this opportunity to work with you Charles.

Sincerely,

Mike

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CEO/Laboratory Director

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METHOD OF TEST FOR ANTISEPTIC PROPERTIES

1. The test organisms were:

   Aspergillus niger (ATCC 16404) The occurrence of this filamentous fungus is documented from all parts of the world but, in contrast to many other *Aspergillus* species, not more than 50% of the finds are within the tropics. It nevertheless is more common in somewhat warmer regions and on south-exposed sites. It has been isolated from numerous different types of soils, usually in the upper 15 cm. The fungus is distributed via the air and is a rapid colonizer of suitable substrates.

   Candida albicans (ATCC 14053) The yeast *C. albicans* is part of the normal endogenous microbial flora in the skin, mouth, vaginal mucous membranes, and stools. *C. albicans* is the most common cause of candidiasis, which is an acute, subacute, or chronic infection involving any part of the body.

   Staphylococcus aureus (ATCC 25923) The major habitats of the bacterium *S. aureus* include the nasal membranes and skin and to a somewhat lesser extent the perineum, gastrointestinal tract, and genital tract of warm-blooded animals. This species may also be isolated from the nares in less than 10% to more than 40% of non-hospitalized human adults. *S. aureus* is a potential pathogen causing a wide range of infections. Some of the major infections include boils, carbuncles, impetigo, toxic epidermal necrolysis, pneumonia, osteomyelitis, meningitis, endocarditis, mastitis, bacteremia, food poisoning (via enterotoxin), enterocolitis, urogenital infections, and toxic shock syndrome.

   Trichophyton mentagrophytes (ATCC 9533) This dermatophyte is a filamentous fungus that is capable of digesting and obtaining nutrients from keratin, the primary component of skin, hair, and nails. Living tissue is usually not invaded as the organism colonizes the keratinized outermost layer of the skin. The "disease" known as ringworm or tinea results from the host reaction to the enzymes released by the fungus during its digestive process. *T. mentagrophytes* is a common cause of athlete's foot.

2. The tests were conducted separately for each of the test microorganisms.

3. *Staphylococcus aureus* was grown in trypticase soy broth. *Aspergillus niger*, *Candida albicans,* and *Trichophyton mentagrophytes* were grown in Sabouraud dextrose broth. The broth cultures of these four organisms were incubated at 28°C on a rotary shaker at 150 RPM. Because the *A. niger* and *T. mentagrophytes* produce large pellets, as opposed to the single cells of the *S. aureus* and the *C. albicans*, these pellets were homogenized in a sterile Waring blender to produce the necessary inocula for the challenges. Prior to the challenges the organisms were centrifuged, resuspended with phosphate-buffered water with Tween 80 (PBWT), and vortexed prior to the next centrifugation. This process was repeated three times.

4. The *S. aureus* and the *C. albicans* cells were adjusted to 10^8 colony-forming units (CFU) per milliliter of PBWT turbidimetrically using a spectrophotometer. The *A. niger* and the *T. mentagrophytes* inocula were quantitated using a haemocytometer, since the hyphal fragments didn't sediment during centrifugation. Two milliliters of each of the microbial suspensions were dispensed into sterile 100 X 16 millimeter test tubes containing one drop of the Silverdyne (ionized silver compound in a double colloidal solution) for the *C. albicans* challenge and three drops for the *A. niger*, *S. aureus* and *T. mentagrophytes* challenges. The microbial suspension and the Silverdyne were allowed to stand at 25°C for 60 minutes for the *C. albicans* and 24 hours for the other three microorganisms.

5. After the specified time the microbial count was determined by the spread plate method, 9215C, in Standard Methods (Eaton, A.D., L.S. Clesceri, E.W. Rice, and A.E. Greenberg. 2005. Standard Methods for the Examination of Water and Wastewater. American Public Health Association, American Water Works Association, and Water Environment Federation. Port City Press, Baltimore, MD).

6. Control for each test microorganism was done using two milliliters of each of the microbial suspensions in a sterile 100 X 16 millimeter test tube without the addition of the Silverdyne.

RESULTS

Silverdyne: "Ionized silver compound in a double colloidal solution"

Test Microorganism	Count of test microorganism recovered from the inoculated sample in colony-forming units per milliliter	Percentage Kill of Test Microorganism
Aspergillus niger (ATCC 16404)		
Control	100,000	
24 hours	93	99.91
Candida albicans (ATCC 14053)		
Control	7,850,000	
60 minutes	<10	99.99
Staphylococcus aureus (ATCC 25923)		
Control	5,760,000	
24 hours	<10	99.99
Trichophyton mentagrophytes (ATCC 9533)		
Control	170,000	
24 hours	<10	99.99

CONCLUSIONS

The Silverdyne product at one drop in two milliliters of phosphate buffered water with Tween 80 for the *C. albicans* and three drops for the other three microbial suspensions produced a greater than 99.9% kill of the test microorganisms *Aspergillus niger*, *Candida albicans, Staphylococcus aureus* and *Trichophyton mentagrophytes*.