ANTIBACTERIAL TEST REPORT

Report #: 7-71
Date: May 14, 2007
Standard Performed:
Antibacterial Test
Method Performed: m-ColiBlue-24
ENVIROTEK LABORATORIES, INC.
By: Jaime A. Young
Customer: Primordial Solutions, Inc.

EXECUTIVE SUMMARY

Adya Mineral solution manufactured by Primordial Solutions, Inc. was tested for antibacterial properties. Four control batches were prepared with four different types of Coliform bacteria in sterilized water and tested for Total Coliform/E. coli using the m-ColiBlue-24 method. Four similar Coliform batches were prepared and treated with the Adya Mineral solution in a 1:1000 proportion and tested again using the same Coliform method. Coliform bacteria were present in the control batches but absent in the treated batches.

INTRODUCTION

Adya Mineral solution manufactured by Primordial Solutions, Inc. was tested for antibacterial properties. Four control batches were prepared with four different types of Coliform bacteria in sterilized water and tested for Total Coliform/E. coli using the m-ColiBlue-24 method. The four types of bacteria used were **Escherichia coli, Enterobacter cloacae, Proteus mirablis,** and **Pseudomonas aeuginosa**. Four similar Coliform batches were prepared and treated with the Adya Mineral solution in a 1:1000 proportion and tested again using the same Coliform method. Coliform bacteria were present in the control batches but absent in the treated batches.

MATERIALS

1) Adya Mineral concentrated Solution
PotableWatr Coliform ERA Catalog # 694 containing Escherichia coli, Enterobacter cloacae, Proteus mirablis, and Pseudomonas aeuginosa at about 500 colonies forming units/mL (CFU/mL)
2) Sterilized water 3) Incubator
4) Reagents and chemicals necessary to perform EPA approved methods

Parameter	Control Samples	Adya Mineral Solution	EPA MCL

for drinking water analysis.

PROCEDURE

1. Remove the vials from the refrigerator and allow them to warm to room temperature.
2. Place the sterilized water containers in the incubator at 35 to 37°C for approximately 30 minutes.
3. After the 30-minute warming period, remove one sterilized water container from the incubator.
4. Carefully open the sterilized water container.
5. Open the appropriate bacteria sample vial and aseptically transfer the gelatin tablet into the sterilized water container and labeled accordingly.
6. Properly dispose the empty glass vial and pouch.
7. Reseal the sterilized water container that now contains the bacteria sample.
8. Prepared all the samples as above.
9. Place the inoculated samples into the incubator at 35 to 37°C for an additional 30 minutes to dissolve the samples.
10. After the 30-minute dissolution period, gently shake each inoculated sample to ensure that the gelatin tablet has completely dissolved.
11. Prepare the filter units and filter the first four samples as per method mColiBlue-24 (these are the control samples).
12. Place the filter membrane in the Petri dish and incubate for 24 hours at 35 to 37°C.
13. Add 0.1 mL of the Adya Mineral solution to the next four 100-mL samples prepared with the Coliform bacteria and repeat steps 11 and 12 (these are the treated samples).

RESULTS

Escherichia coli	Present	Absent	Absent
Enterobacter cloacae	Present	Absent	Absent
Proteus mirablis	Present	Absent	Absent
Pseudomonas aeuginosa	Present	Absent	Absent

CONCLUSION

The Adya Mineral solution prepared at 1:1000 effectively kills the four types of bacteria present in the challenge water at about 500 CFU/mL.

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