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CHLORINE REDUCTION TEST REPORT

Report #: 8-7-C1
Date: 02/12/2008
Standard Performed: NSF-42 Chlorine Reduction Test (adapted)
Method Performed: Free Chlorine EPA 330.5
By: Jaime A. Young
Customer: Adya, Inc.

EXECUTIVE SUMMARY

Adya Ionic Mineral solution manufactured by Adya, Inc. was tested by applying the protocol NSF Standard 42 for chlorine reduction. The solution prepared with 1 mL of the Adya Ionic Mineral solution dissolved in a 1000 mL volumetric flask with the challenge water (2.08 ppm of Free Chlorine) reduced the Free Chlorine in the challenge water by 100.0%.

INTRODUCTION

Adya Ionic Mineral solution manufactured by Adya, Inc. was tested by applying the protocol NSF Standard 42 for chlorine reduction. The challenge water was prepared by adding a chlorine standard to DI water in a 1000 mL volumetric to obtain a final concentration of free chlorine of 2.0 ± 0.2 mg/L (ppm); the solution was analyzed as per EPA method 330.5. After analyzing the free chlorine and other parameters of this challenge water, one milliliter of the Adya Ionic Mineral concentrated solution was added to the volumetric flask containing the challenge water (2.08 ppm of Free Chlorine) mixed well and analyzed as per EPA method 330.5. The solution prepared at a concentration of 1:1000 in the challenge water, reduced the free chlorine in the challenge water by 100.0%. The level of chloride was tested in the challenge water before and after adding the Adya Ionic Mineral solution, the chloride level increased from 16 ppm to 550 ppm after adding the Mineral solution indicating that the free chlorine was converted to chlorides in the water.

MATERIALS

Adya Ionic Mineral concentrated Solution
Chlorine Standard Solution
Spectrophotometer (UV, Visible range)
Reagents and chemicals necessary to perform EPA approved methods for drinking water analysis.

PROCEDURE

Prepare a water solution with free chlorine at a concentration of 2.0 ± 0.2 mg/L (ppm) by adding the appropriate amount of the chlorine standard to DI water. Analyze the final solution according to protocol NSF Standard 42. Add 1 mL of the Adya Ionic Mineral concentrated solution, mix well and analyze the final solution according to protocol NSF Standard 42.



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RESULTS

Parameter	Challenge Water	Adya Mineral Solution	NSF Standard 42 range
pH	7.1	6.8	6.5-8.5
Total Dissolved Solids	110	118	80-120 ppm
Alkalinity	80	20	80-120 (ppm)
Calcium	20	800	32-48 (ppm)
Fluorides	2.0	1	2.0 (ppm)
Chlorides	60	550	Not Specified
Free Chlorine	2.08	Not Detected	2.0 ± 0.2

CONCLUSION

The Adya Mineral solution prepared at 1:1000 in the challenge water reduces the free chlorine in the challenge water by 100.0%, the minimum reduction amount required by the NSF Standard 42 is 50%, this product meets the requirements for chlorine reduction. The Adya Ionic Mineral solution also reduces the alkalinity and the pH of the water.

The calcium and chloride levels increased by a significant amount after adding the Ionic Mineral solution to the challenge water. The reduction of the free chlorine level indicates that the free chlorine was reduced to chlorides. There is also a decreased in the amount of fluorides in the challenge water by 50.0%. The Adya Ionic Mineral solution is a suitable source of essential minerals.

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