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EPA ID # NJ01298 NJ DEP ID # 08012 PA DEP ID # 68-04402 NY ELAP # 11987

## DROPS OF BALANCE FLUORIDE REDUCTION TEST REPORT

Report # 11-258-NaF Customer

Name: Drops of Balance

Report Date: November 5, 2011

### EXECUTIVE SUMMARY

A water solution prepared with a Sodium Fluoride concentration 8 mg/L of Fluoride was tested, Drops of Balance was added to the solution at a concentration of 1 mL, 2 mL, 3 mL, and 4 mL of Drops of Balance per liter of Sodium Fluoride solution and the solution was tested each time after about 15 minutes of adding the Drops of Balance solution. The concentration of Fluoride decreased each time until it was not detected by the EPA method 3.40.2.

### INTRODUCTION

A water solution prepared with a Sodium Fluoride concentration of 8 mg/L of Fluoride as per NSF/ANSI Standard 53 was tested following the EPA method 340.2, Drops of Balance was added to the solution at a concentration of 1 mL, 2 mL, 3 mL, and 4 mL of Drops of Balance per liter of Sodium Fluoride solution and the solution was tested after about 15 minutes of adding the Drops of Balance solution. The concentration of Fluoride decreased each time until it was not detected by the EPA method 340.2.

### REAGENTS AND LAB EQUIPMENT

Orion Dual Star ISE meter with Oakton Fluoride probe.

Oakton Sodium Fluoride standard 1,000 mg/L solution.

Hach Sodium Fluoride standard 100 mg/L.

Oakton Ion Strength Adjuster solution.

Drops of Balance solution.

### PROCEDURE

A water solution was prepared using DI water and the Oakton Sodium Fluoride solution to obtain a concentration of 8 mg/L of Fluoride tested following the EPA method 340.2.

One mL of Drops of Balance was added to one liter of the Sodium Fluoride solution, mixed well and let it stand for about 15 minutes. The final solution was tested for Fluoride ions; the procedure was repeated after adding a total of two mL, three mL and four mL of Drops of Balance solution. The results are summarized in the table below.

### RESULTS

The Fluoride concentrations are summarized in the following table:

Parameter Tested	Water Solution	Drops of Balance 1 mL/L	Drops of Balance 2 mL/L	Drops of Balance 3 mL/L	Drops of Balance 4 mL/L
Fluoride	7.94 mg/L	3.73 mg/L	2.98 mg/L	1.51 mg/L	<0.5 mg/L

### CONCLUSION

The Drops of Balance traps about 100% of the Fluoride ions in solution at a concentration of 4 mL of Drops of Balance per 8 mg/L of Fluoride solution; at this point, the Fluoride ion was below the detection limit of the method 340.2.

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