



ENVIROTEK LABORATORIES, INC.

120 White Owl Trail, Mullica Hill, NJ 08062

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

ADYA CLARITY VOC SPIKED SOLUTION TEST REPORT

Report # 11-258-VOC

Customer Name: Adya, Inc.

Site Address: 445 East Chicago St. Coldwater, MI 49036

Report Date: November 3, 2011

EXECUTIVE SUMMARY

A water solution prepared with a VOC standard concentration of 20 µg/L of each organic volatile compound (VOC) was tested. Adya Clarity was added to separate beakers at a concentration of 1 mL and 2 mL of Adya Clarity per liter of VOC solution. The solutions were set in open beakers for 48 hours and tested after being filtered through the Adya Mineral Water Filter System. The concentration of VOC's were below the method detection limit for each compound on each solution.

INTRODUCTION

A water solution prepared with a VOC standard concentration 20 mg/L of each organic volatile compound (VOC) was tested. Adya Clarity was added to separate containers containing the VOC solution at a concentration of 1 mL of Adya Clarity and 2 mL of Adya Clarity per liter of VOC solution, respectively. The solutions were set in open containers for 48 hours; then tested after being filtered through the Adya Mineral Water Filter System. The concentration of VOC's were below the method detection limit for each compound on each solution.

REAGENTS AND LAB EQUIPMENT

HP 5890/5972 GC/MS system with ChemStation data system.

Restek VMS GC column 60m, 0.25mm ID, 0.25µm film.

Restek VOC standard solution 2,000 mg/L solution.

Adya Filter system.

Adya Clarity solution.

PROCEDURE

A water solution was prepared using DI water and the Restek VOC standard solution to obtain a concentration of 20 µg/L of each VOC tested following the EPA method 524.2.

One mL of Adya Clarity was added to one beaker containing one liter of the VOC solution, mixed well and let it stand for 48 hours in the open beaker.

Two ml of Adya Clarity was added to a second beaker containing one liter of the VOC solution, mixed well and let it stand for 48 hours in the open beaker.

The solutions were filtered through the Adya Mineral Water Filter System, the final filtered solutions were tested again for VOC's.

One beaker containing one liter of the VOC solution was set parallel to the other solutions and let it stand for 48 hours for a control sample without adding any Adya Clarity and filtered through the Adya Mineral Water Filter System. The results are summarized in the table below.



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RESULTS

The VOC concentrations are summarized in the following table:

Test Parameter	20 ppb VOC Solution	Control Filtered Solution (after 48 hrs)	1 mL Adya Clarity Filtered Solution (after 48 hrs)	2 mL Adya Clarity Filtered Solution (after 48 hrs)
Acetone	19.24 ug/L	2.35 ug/L	<0.5 ug/L	<0.5 ug/L
Acrylonitrile	19.90 ug/L	1.25 ug/L	<0.5 ug/L	<0.5 ug/L
Allyl chloride	17.58 ug/L	1.85 ug/L	<0.5 ug/L	<0.5 ug/L
Benzene	19.10 ug/L	1.55 ug/L	<0.5 ug/L	<0.5 ug/L
Bromobenzene	18.65 ug/L	1.85 ug/L	<0.5 ug/L	<0.5 ug/L
Bromochloromethane	18.24 ug/L	1.51 ug/L	<0.5 ug/L	<0.5 ug/L
Bromodichloromethane	18.25 ug/L	3.52 ug/L	<0.5 ug/L	<0.5 ug/L
Bromoform	19.35 ug/L	3.38 ug/L	<0.5 ug/L	<0.5 ug/L
Bromomethane	18.84 ug/L	2.35 ug/L	<0.5 ug/L	<0.5 ug/L
2-Butanone	19.89 ug/L	1.62 ug/L	<0.5 ug/L	<0.5 ug/L
n-Butylbenzene	18.71 ug/L	1.35 ug/L	<0.5 ug/L	<0.5 ug/L
sec-Butylbenzene	17.52 ug/L	2.25 ug/L	<0.5 ug/L	<0.5 ug/L
tert-Butylbenzene	18.88 ug/L	1.52 ug/L	<0.5 ug/L	<0.5 ug/L
Carbon disulfide	18.82 ug/L	1.55 ug/L	<0.5 ug/L	<0.5 ug/L
Carbon tetrachloride	19.15 ug/L	1.52 ug/L	<0.5 ug/L	<0.5 ug/L
Chloroacetonitrile	19.57 ug/L	1.85 ug/L	<0.5 ug/L	<0.5 ug/L
Chlorobenzene	19.33 ug/L	1.35 ug/L	<0.5 ug/L	<0.5 ug/L
1-Chlorobutane	19.25 ug/L	1.65 ug/L	<0.5 ug/L	<0.5 ug/L
Chloroethane	18.71 ug/L	1.75 ug/L	<0.5 ug/L	<0.5 ug/L
Chloroform	19.16 ug/L	1.95 ug/L	<0.5 ug/L	<0.5 ug/L
Chloromethane	19.88 ug/L	0.72 ug/L	<0.5 ug/L	<0.5 ug/L
2-Chlorotoluene	19.18 ug/L	1.49 ug/L	<0.5 ug/L	<0.5 ug/L
4-Chlorotoluene	19.55 ug/L	0.58 ug/L	<0.5 ug/L	<0.5 ug/L
Dibromochloromethane	19.18 ug/L	0.58 ug/L	<0.5 ug/L	<0.5 ug/L
1,2-Dibromo-3-chloropropane	18.94 ug/L	2.18 ug/L	<0.5 ug/L	<0.5 ug/L
1,2-Dibromoethane	19.22 ug/L	0.85 ug/L	<0.5 ug/L	<0.5 ug/L
Dibromomethane	19.73 ug/L	1.45 ug/L	<0.5 ug/L	<0.5 ug/L
1,2-Dichlorobenzene	19.47 ug/L	1.47 ug/L	<0.5 ug/L	<0.5 ug/L
1,3-Dichlorobenzene	19.18 ug/L	0.58 ug/L	<0.5 ug/L	<0.5 ug/L
1,4-Dichlorobenzene	18.63 ug/L	0.96 ug/L	<0.5 ug/L	<0.5 ug/L
trans-1,4-Dichloro-2-butene	19.45 ug/L	1.50 ug/L	<0.5 ug/L	<0.5 ug/L
Dichlorodifluoromethane	19.50 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
1,1-Dichloroethane	18.32 ug/L	0.52 ug/L	<0.5 ug/L	<0.5 ug/L
1,2-Dichloroethane	19.26 ug/L	0.53 ug/L	<0.5 ug/L	<0.5 ug/L
1,1-Dichloroethene	19.20 ug/L	0.85 ug/L	<0.5 ug/L	<0.5 ug/L
cis-1,2-Dichloroethene	18.19 ug/L	0.55 ug/L	<0.5 ug/L	<0.5 ug/L
trans-1,2-Dichloroethene	18.40 ug/L	0.86 ug/L	<0.5 ug/L	<0.5 ug/L
1,2-Dichloropropane	19.25 ug/L	0.76 ug/L	<0.5 ug/L	<0.5 ug/L
1,3-Dichloropropane	19.10 ug/L	0.80 ug/L	<0.5 ug/L	<0.5 ug/L
2,2-Dichloropropane	19.07 ug/L	0.65 ug/L	<0.5 ug/L	<0.5 ug/L
1,1-Dichloropropene	19.65 ug/L	0.58 ug/L	<0.5 ug/L	<0.5 ug/L
1,1-Dichloropropanone	19.91 ug/L	1.25 ug/L	<0.5 ug/L	<0.5 ug/L
cis-1,3-Dichloropropene	19.28 ug/L	0.84 ug/L	<0.5 ug/L	<0.5 ug/L
trans-1,3-Dichloropropene	19.75 ug/L	0.68 ug/L	<0.5 ug/L	<0.5 ug/L
Diethyl ether	19.75 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
Ethylbenzene	19.70 ug/L	0.60 ug/L	<0.5 ug/L	<0.5 ug/L
Ethyl methacrylate	18.08 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
Hexachlorobutadiene	19.80 ug/L	0.53 ug/L	<0.5 ug/L	<0.5 ug/L
Hexachlorobutadiene	18.36 ug/L	0.74 ug/L	<0.5 ug/L	<0.5 ug/L
Hexachloroethane	19.36 ug/L	0.66 ug/L	<0.5 ug/L	<0.5 ug/L
2-Hexanone	19.20 ug/L	0.60 ug/L	<0.5 ug/L	<0.5 ug/L
Isopropylbenzene	19.00 ug/L	0.20 ug/L	<0.5 ug/L	<0.5 ug/L
4-Isopropyltoluene	19.05 ug/L	0.59 ug/L	<0.5 ug/L	<0.5 ug/L
Methacrylonitrile	19.20 ug/L	0.95 ug/L	<0.5 ug/L	<0.5 ug/L
Methylacrylate	18.60 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
Methylene chloride	19.04 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L

CONFIDENTIAL



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Test Parameter	20 ppb VOC Fresh Solution	Control Solution (after 48 hrs)	1 mL Adya Clarity Filtered Solution (after 48 hrs)	2 mL Adya Clarity Filtered Solution (after 48 hrs)
Methyl iodide	18.72 ug/L	0.85 ug/L	<0.5 ug/L	<0.5 ug/L
Methylmethacrylate	18.87 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
4-Methyl-2-pentanone	18.68 ug/L	0.61 ug/L	<0.5 ug/L	<0.5 ug/L
Methyl-t-butyl ether	18.57 ug/L	0.85 ug/L	<0.5 ug/L	<0.5 ug/L
Naphthalene	19.24 ug/L	1.35 ug/L	<0.5 ug/L	<0.5 ug/L
Nitrobenzene	19.85 ug/L	1.50 ug/L	<0.5 ug/L	<0.5 ug/L
2-Nitropropane	19.83 ug/L	0.68 ug/L	<0.5 ug/L	<0.5 ug/L
Pentachloroethane	18.70 ug/L	0.49 ug/L	<0.5 ug/L	<0.5 ug/L
Propionitrile	19.95 ug/L	0.60 ug/L	<0.5 ug/L	<0.5 ug/L
n-Propylbenzene	19.15 ug/L	1.20 ug/L	<0.5 ug/L	<0.5 ug/L
Styrene	18.90 ug/L	1.22 ug/L	<0.5 ug/L	<0.5 ug/L
1,1,1,2-Tetrachloroethane	19.55 ug/L	0.55 ug/L	<0.5 ug/L	<0.5 ug/L
1,1,1,2-Tetrachloroethane	19.73 ug/L	1.42 ug/L	<0.5 ug/L	<0.5 ug/L
Tetrachloroethene	18.66 ug/L	1.35 ug/L	<0.5 ug/L	<0.5 ug/L
Tetrahydrofuran	19.15 ug/L	0.72 ug/L	<0.5 ug/L	<0.5 ug/L
Toluene	18.57 ug/L	0.88 ug/L	<0.5 ug/L	<0.5 ug/L
1,2,3-Trichlorobenzene	18.80 ug/L	1.44 ug/L	<0.5 ug/L	<0.5 ug/L
1,2,4-Trichlorobenzene	18.54 ug/L	0.63 ug/L	<0.5 ug/L	<0.5 ug/L
1,1,1-Trichloroethane	19.50 ug/L	0.68 ug/L	<0.5 ug/L	<0.5 ug/L
1,1,2-Trichloroethane	19.95 ug/L	0.51 ug/L	<0.5 ug/L	<0.5 ug/L
Trichloroethene	19.33 ug/L	1.44 ug/L	<0.5 ug/L	<0.5 ug/L
Trichlorofluoromethane	19.50 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
1,2,3-Trichloropropane	19.65 ug/L	1.35 ug/L	<0.5 ug/L	<0.5 ug/L
1,2,4-Trimethylbenzene	19.85 ug/L	1.49 ug/L	<0.5 ug/L	<0.5 ug/L
1,3,5-Trimethylbenzene	19.22 ug/L	3.50 ug/L	<0.5 ug/L	<0.5 ug/L
Vinyl chloride	19.50 ug/L	<0.5 ug/L	<0.5 ug/L	<0.5 ug/L
o-Xylene	19.73 ug/L	1.87 ug/L	<0.5 ug/L	<0.5 ug/L
m-Xylene	19.11 ug/L	1.08 ug/L	<0.5 ug/L	<0.5 ug/L
p-Xylene	19.90 ug/L	1.38 ug/L	<0.5 ug/L	<0.5 ug/L

CONCLUSION

The Adya Clarity is very effective when used to filter the volatile organic compounds through the Adya Mineral Water Filtration System.

Jaime A. Young
Lab Director