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TEST REPORT

Send To: C0164548
Mr. Syd Williams
GenEon Technologies LLC
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Result:	**PASS**	Report Date: 11-OCT-2013

Customer Name:	GenEon Technologies LLC
Test Location:	NSF International; 789 N. Dixboro Rd.; Ann Arbor, MI 48105
Tested To:	NSF Protocol P423
Description:	GenEon Electrochemically Activated Cleaners - Certification
Test Type:	Qualification Testing
Job Number:	J-00128542
Project Number:	9157498 (PL01)
Project Manager:	Lisa Yakas

Executive Summary: The 5 samples tested produced an average of 160.2 ppm free available chlorine and after stabilizing for 24 hours the average concentration dropped to 153.8 ppm in the included spray bottles.

No violations to the protocol were noted during the Labeling and Product Information, Sanitizer Production or the Stability portions of the testing.

Thank you for having your product tested by NSF International.

Please contact your Project Manager if you have any questions or concerns pertaining to this report.

Report Authorization: Sal Aridi

Digitally signed by Sal Aridi
DN: cn=Sal Aridi, o=NSF International, ou=Engineering Lab, email=aridi@nsf.org, c=US
Date: 2013.10.11 15:35:35 -04'00'

Sal Aridi, Manager Engineering Laboratory

Scope of Test Report

This test report consists of an evaluation of five (5) GenEon Technologies Trio Decanter Activator Sets, model numbers EU-7010, to sections 6, 7, and 8 of NSF Protocol P423.

Sample Descriptions

The filter cartridge is defined as all components, including the filter body used during testing. The information and test results contained in this report apply only to the components and assembly listed below:

Test Sample:	GenEon Trio, model EU-7010 Decanter and Base Station
Catalyst:	GenEon Sanitizer/Cleaner: 99.99% NaCl and Citric Acid
Storage Container:	Spray bottle with label.

Figure 1 - Decanter and Base Set, During Operation Cycle

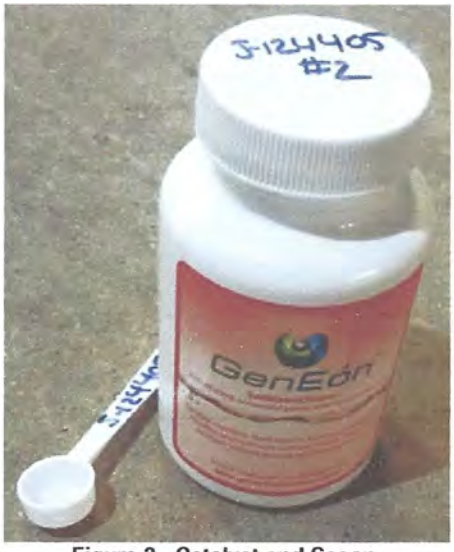

Figure 2 - Catalyst and Scoop

Figure 3 - Storage Spray Bottle

Trio™

Kills more than 99.999% of harmful bacteria when used as directed. To sanitize nonporous hard surfaces:
-Clean surface with the **Trio** before sanitizing.
-Add 4 Grams (4 spoons) of Sanitizing Catalyst, then add 40 oz of tap water.
-Activate solution on base.
(see instruction manual for more detail)

After surface is clean and clear of debris:

1. Spray surface
2. Leave activated solution on surface for 30 seconds.
3. Wipe surface dry with clean cloth.

Caution:
Do not expose to eyes or sensitive skin. If contact occurs rinse with water.
Keep out of reach of children.
It is a violation of U.S. federal law to use this product in a manner inconsistent with its labeling.

geneontechnologies.com
EPA Est. # 088681-KOR-001

NSF Protocol P423
Electrochemically Activated Sanitizers in Food Service Operations

Figure 4 - Decanter Instruction Label

Figure 5 - Power Supply

Figure 6 - Base Station, with Web Address

Figure 7 - Storage Spray Bottle Label

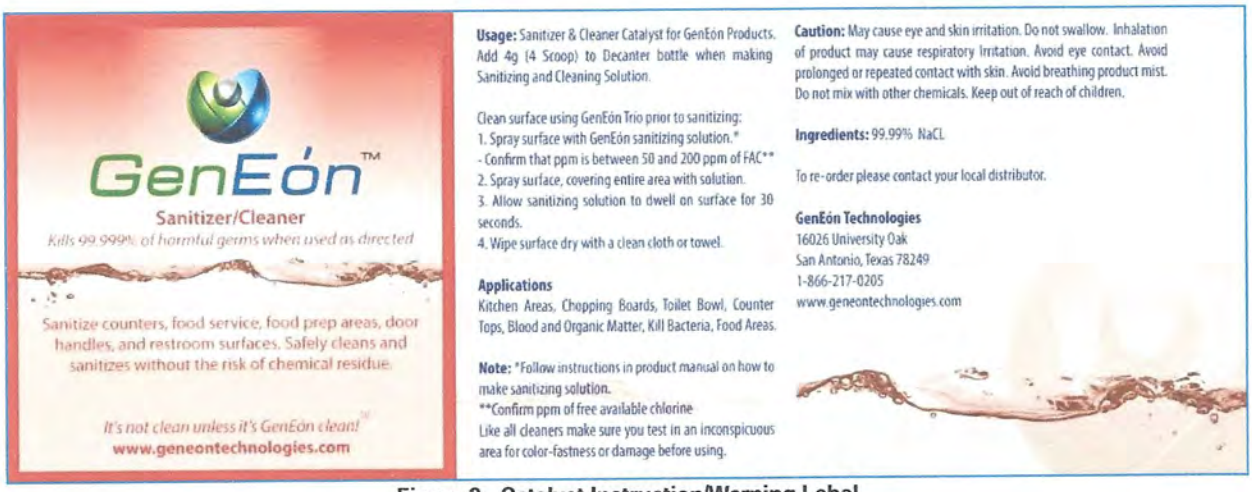

Figure 8 - Catalyst Instruction/Warning Label

Figure 9 - Base Station

Figure 10 - Base Data Plate

Figure 11 – Decanter, Keyed Bottom

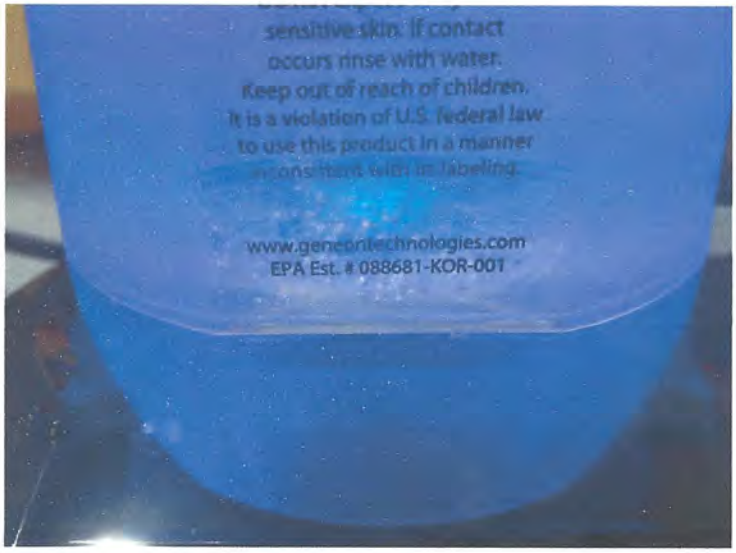

Figure 12 - Test Sample, During Activation

Labeling and Product Information Requirements

6.1 – Label Contents

PASS

Table 1 – Label Contents

Section	Requirement	Pass	Fail
6.1	Product name, brand, or trademark	X	
	Mfr name, and phone number or website	X	
	Net contents	X	
	EPA Establishment or Registration Number	X	
	Ingredient statement	X	
	Solution preparation instructions	X	
	Use instructions	X	
	Hazard and precautionary statements	X	
	First aid instructions	X	
	Product performance claim	X	
	NSF Mark or reference to NSF certification	X	

6.2 – Operation and Instruction Manual

PASS

Table 2 - Operation and Instruction Manual Contents

Section	Requirement	Pass	Fail
6.2	Product name	X	
	Mfr name, address, phone number and website	X	
	Contents list (to include catalyst)	X	
	Replacement part or electrolyte information	X	
	Solution preparation instructions	X	
	Use instructions	X	
	First aid instructions	X	
	Disposal and/or recycling information for solution and product	X	
	EPA Establishment or Registration Number	X	
	Water quality requirements	X	
	Warranty information	X	
	Troubleshooting information	X	
	NSF Mark and reference to NSF certification	X	

6.3 – Legibility **PASS**

Table 3 - Legibility

Section	Requirement	Pass	Fail
6.3	All required information clearly legible, easy to understand, and conspicuous	X	
	Required label text must be 6pt font or larger, on contrasting background, not obscured/crowded	X	
	Required label text must be in language suitable for the country where product is to be used.	X	

Performance

7.1 – Ability to Produce Sanitizer **PASS**

Purpose

This test is designed to evaluate the ability to produce a sanitizing solution that meets the requirements of the applicable points of Section 7.

Test Procedure

Five (5) test samples were assembled according to the manufacturer's instructions, with the power supply plugged into a standard 120VAC power outlet. The amount of catalyst (NaCl) was determined to be 4 level scoops, using the manufacturer supplied scoop as the measurement device, as established by the information within the Instruction Manual, and the Instructions on the side of the decanter. The amount of catalyst was then weighed, recorded, and added to each decanter.

Test water was balanced to meet the requirements of both NSF Protocol P423 and the manufacturer requirements listed in the instruction manual (listed in Tables 4 and 5 below), and added to each of the decanters to the 'Fill' line marked on the side of the test samples, using a graduated cylinder to determine the amount of water used.

Each test sample base was then initiated, using a calibrated stopwatch to measure the amount of time for each operation cycle. The contents of the decanters were then allowed to sit during the operation period of each subsequent unit. The test solutions were then measured for free available chlorine (FAC) and pH levels.

Table 4 - Test Requirements, Protocol P423

Protocol Requirement	Allowable Range
pH	7.5 ± 0.5
Water Temperature	68 ± 5°F
Total Dissolved Solids (TDS)	200 – 500 mg/L
Total Organic Carbon (TOC)	> 1.0 mg/L
Turbidity	< 1 NTU
Room Temperature	73.4 ± 9°F
Voltage	± 5 Volts from mfr. listed
Salt/Additive	± 0.1g, to mfr recommendation

Table 5 - Test Requirements, Manufacturer's Recommendations

Manufacturer Requirement	Allowable Range
pH	2.5 – 7
Water Temperature	41 – 104°F
Total Volume	40 fl. oz., or to Fill Line
Additive Amount	4 scoops/ 4 grams
Hardness	< 200 ppm
Voltage	100 – 240 VAC

Test Data

The data collected during the Ability to Produce Sanitizer test, and the analysis of the data, are shown below in Tables 6, 7 and 8.

Table 6 - Test Data

Measured Parameter	Value
pH	6.97
Water Temperature	68.9°F
Room Temperature	70.0°F
TDS	mg/L
TOC	0.4 mg/L
Turbidity	0.47 NTU
Voltage	118.5 VAC
Hardness	85 mg/L

Table 7 - Ability to Produce Sanitizer Data

Sample	Produced FAC (mg/L)	pH	Operation Cycle Time (min)	Water Volume (mL)	Catalyst Mass (g)
1	162.0	8.50	4.97	1135	5.60
2	169.0	8.56	4.93	1140	5.45
3	158.0	8.61	4.95	1140	5.50
4	151.0	8.61	4.95	1140	5.35
5	161.0	8.64	4.95	1135	5.25
Average	160.2	8.58	4.95	1138	5.43

Table 8 - Data Analysis

FAC Deviation (from average) (%)	pH Deviation (from geometric mean) (%)	Operation Cycle Time Deviation (%)
1.1	-1.01	0.3
5.5	-0.3	-0.3
-1.4	0.3	0.0
-5.7	0.3	0.0
0.5	0.7	0.0

Performance Requirement

1) Each test replicate shall produce a sanitizer level that achieves a minimum of 100mg/L free available chlorine, or its equivalent.
2) The chlorine concentration from each replicate shall not vary more than +/-20% from the average concentration of all of the replicates
3) Each test replicate shall produce a sanitizer with a pH of 10 or lower
4) The pH of each replicate shall not vary more than +/-20% from the geometric mean concentration of all of the replicates
5) The operating cycle of each replicate must be within +/10% of the average cycle

Test Results

The test samples were able to produce a sanitizer that met the pH requirements and concentration range requirements of the protocol.

7.2 – Active Ingredient Stability

Purpose

This test is designed to evaluate the concentration of active ingredient in the test solution after a storage period of 24±2 hours.

Test Procedure

Test solution is prepared and activated in accordance to Ability to Produce Sanitizer (7.1.1) section of the test protocol, and the manufacturer's instructions. Half of the test solution is then removed from the storage container, and the test device is sealed with any equipment associated with the device. The half-full containers are then placed in a storage area for 24±2 hours, at room temperature. At the end of the storage period, the solution is then analyzed for the concentration of the active ingredient and the pH level.

Test Data

The data collected during the Active Ingredient Stability test is shown below in Table 9.