

## Activeion Ion Cleaning System Proposal

### May 2011

Academic Custodial Services (ACS) has performed testing to compare cleaning with Activelon water cleaning with our current green chemical cleaning program. The Activeion Cleaning System proves to provide very similar levels of cleaning and compared to our current green chemical cleaning program.

The ionator EXP™ by Activeion™ Cleaning Solutions is a handheld device that uses electrical charges to temporarily alter regular tap water transforming it into a powerful cleaner—without using chemicals. (See Page 4 **Activeion Literature 1**)

This cleaning system is the next generation of sustainable products available in the cleaning and restoration industry today and not only is an effective cleaning and sanitizing process in an institutional environment but it eliminates the need for most chemical cleaning products with a very short pay back in the neighborhood of one year.

“Activeion is the perfect renewable cleaner for our future generations. In fact, if half of all educational facilities in the U.S. used Activeion for 5 years, they would save the energy equivalent of 2,873,700 gallons of gas, 15,450 tons of coal, and 61,182 barrels of oil. Source: Results from a 2009 Center for Clean Products/Ecoform Study at the University of Tennessee.”

The Activeion system is effective in sanitizing and cleaning multiple surfaces and using current ATP meter testing on various hard surfaces (stainless, porcelain, plastic, wood, tile, vinyl, chrome, etc.) we have determined its powerful effectiveness to remove soil and eliminate pathogenic bacteria. (See Page 5 **ATP Meter Testing Results**) Through our extensive testing ACS has also discovered that along with the incredible benefits of chemical free cleaning it will take the same amount of time to clean the above surfaces. (See Page 6 **Fixture Cleaning Time Analysis**)

ATP testing systems determine the cleaning efficiency and hygienic status of surfaces and water. Microbial contamination contains ATP, which should be significantly reduced after cleaning.

From Kaivac Cleaning Systems website we learn the following:

*“The ATP meter makes it possible to monitor just how clean surfaces are by detecting the level of microbial contamination on surfaces in just seconds. Designed with state of the art electronics the SystemSURE PLUS palm sized ATP meter is easy to use, extremely sensitive and very affordable. The SystemSURE PLUS ATP meter measures Adenosine Triphosphate (ATP), the universal energy molecule found in all animal, plant, bacterial, yeast, and mold cells. After cleaning, all sources of ATP should be significantly reduced.*

*When ATP comes into contact with the unique liquid stable luciferase/luciferin reagent in the Ultrasnap testing swab, light is emitted in direct proportion to the amount of ATP present. The higher the reading the more contamination present. ATP meter hygiene monitoring provides accurate and traceable verification of the hygienic status of a surface, which is a key component of a good hygiene program. ATP testing is a universally recognized tool used by organizations of all sizes for measuring the hygiene levels of surfaces in order to ensure consistent sanitation practices as well as public safety. “*

ACS proposes to eliminate three main chemical cleaning products and a quaternary ammonium disinfectant for all cleaned areas in the academic assignments.

#### **Activeion Benefits for WWU:**

- 1) Reduces indoor air quality impacts and chemical cleaning residues on all hard surfaces.
- 2) Eliminates purchase, packaging, transportation, disposal, and storing of all daily usage chemical cleaning products.
- 3) Save money on cleaning products with a short payback to implement. (See Page 7 **Activeion Cost Analysis Calculator** and Page 8 **Chemical Inventory Restock Values**)

#### **Goals and Outcomes:**

As the resultant goal of this proposal ACS would like to see the purchase of twenty four Activeion units so as to equip cleaning staff with the most sustainable no chemical residue tools available for cleaning and sanitizing our campus. This would give each cleaning team two units apiece and leave two for replacements if there was defective or broken units – the team would still be able to continue the program without interruption – this would go a long way to meeting our goal of being one of the “greenest” cleaning units in the nation and allow ACS to continue its existence on the cutting edge of custodial technology.

#### **What do others say about Activeion?**

- Good for you and the environment
- The Center for Clean Products/Ecoform at the University of Tennessee found that compared to chemical cleaners, Activeion reduces energy consumption and pollution between 97-100% across seven key indicators of environmental sustainability.
- The Toxics Use Reduction Institute (TURI™) at the University of Massachusetts, Lowell conducted independent testing on the cleaning performance of our system on various soils and surfaces. The results: Activeion cleaned as well as and in some cases, better than, the general-purpose and specialized chemical cleaners selected for testing.

## Universities and Public Institutions Using Activeion:

### National Institutions

- **Grand Haven Public School** saves \$37,000 in cleaning costs per year eliminating eight chemical cleaners.
- **Georgia Institute of Technology** reduced spending on cleaners by 84% eliminating four traditional cleaners. "We recently enhanced our green cleaning program by incorporating ionized water devices. These tools have simplified our cleaning processes and provide significant cost savings."
- **King County Metro Transit** has changed over their entire cleaning operation to Activeion and Steam Cleaning technology with tremendous success.
- **Colgate University** "Anytime I can find a product that makes our lives easier – but is also efficient and effective – I'm impressed. Activeion is one of those products."
- **Yale University Medical School**
- **Davidson College**
- **Texas A&M Department of Recreation**
- **University of Wisconsin**
- **Guilford College**
- **Georgia State University**

### Local Institutions

- **Seattle Center**
- **Swedish Medical Center**
- **King County Metro Transit Facilities**
- **City of Burlington**
- **Jefferson County**
- **Sedro-Woolley Schools**
- **Port Townsend Schools**
- **Mason County General Hospital**
- **Port Townsend Food Co-op**
- **Skagit Valley Casino Resort**
- **Swinomish Casino**
- **Ferndale Schools**



## PLANET-FRIENDLY

# Sustainability results

The Center for Clean Products/Ecoform at the University of Tennessee found that compared with chemical cleaners, the use of Activeion technology reduces energy consumption and pollution between 97% and 100% across seven key indicators of environmental sustainability: energy, greenhouse warming gases, ozone, smog, acid, eutrophication and particulate.



## KILLS GERMS

# Sanitizing test results

(Performed by an independent lab)

### TEST SUBSTANCE: ACTIVEION IONATOR

Organisms	Percent killed
Methicillin-Resistant <i>Staphylococcus aureus</i>	>99.9%
Vancomycin-Resistant <i>Enterococcus faecalis</i>	>99.9%
<i>Listeria monocytogenes</i>	>99.9%
<i>Escherichia coli</i>	>99.9%
<i>Staphylococcus aureus</i>	>99.9%
<i>Escherichia coli</i> O157:H7	>99.9%
<i>Pseudomonas aeruginosa</i>	>99.9%
<i>Salmonella enterica</i>	>99.9%

### SUMMARY OF RESULTS

**TEST SUBSTANCE:** Activeion ionator

**VIRUS:** Influenza A (H1N1) virus, ATCC VR-1469, Strain A/PR/8/34

**EXPOSURE TIME:** Six Seconds (spray time)

**EXPOSURE TEMPERATURE:** Room Temperature (24° C)

**EFFICACY RESULT:** Two lots of Activeion, lot 1.1a 600 SZ#1 and lot 1.1a 600 SZ#2, met the test criteria specified in the study protocol. The results indicate complete inactivation of the Influenza A (H1N1) virus under these test conditions as required by the U.S. EPA for claims of virucidal activity.



## CLEANS UP

# Cleaning evaluation

(Performed by TURI)

### GENERAL-PURPOSE CLEANING

The Activeion technology was tested against a commercial-grade, general-purpose cleaner. The test was conducted with Hucker's Soil (a mixture containing creamy peanut butter, salted butter, stone-ground wheat flour, egg yolk, evaporated milk, distilled water, printer's ink with boiled linseed oil and saline solution). The mixture was applied to ceramic, stainless steel and plastic surfaces.

**CONCLUSION:** The Activeion technology removed more than 90% of the Hucker's Soil on two of the three surfaces in the first pass, and was found to be more effective than the conventional cleaning products. The composite soil used in this test represents a worst-case cleaning scenario.

### GLASS, CHROME AND MIRRORS

The Activeion technology was tested against a leading glass cleaner. The test was conducted with SSL Soil 2 (a soap scum mixture containing shaving cream, deodorant, hair gel, toothpaste and water). The mixture was applied to glass, chrome and mirror surfaces.

**CONCLUSION:** Compared to the leading glass cleaner, the Activeion technology was the most effective soap scum remover and had the lowest level of filming.

### STAINLESS STEEL

Stainless steel plates were measured with a gloss meter before and after cleaning to determine how well the supplied product improved the gloss of the surface. In addition, visual observations were made as to the level of cleanliness achieved. The stainless steel plates were contaminated with several layers of fingerprints and wiped with a microfiber cloth.

**CONCLUSION:** The Activeion product was effective at removing finger oils from the stainless steel surface and performed better than the conventional stainless steel cleaner. The Activeion technology produced 20% more shine/gloss than the conventional cleaner.

Performance testing carried out as part of IEHA'S HIGH PERFORMANCE CLEANING PRODUCT (HPCP) program, by the Toxics Use Reduction Institute's Surface Solutions Laboratory.

The HPCP program's testing procedures include a modified ASTM G122 Test Method, a modified version of the Green Seal, the CSPA DCC-17 – Greasy Soil Test Method – or the CRI Carpet Spot Cleaning TM-110 standard.

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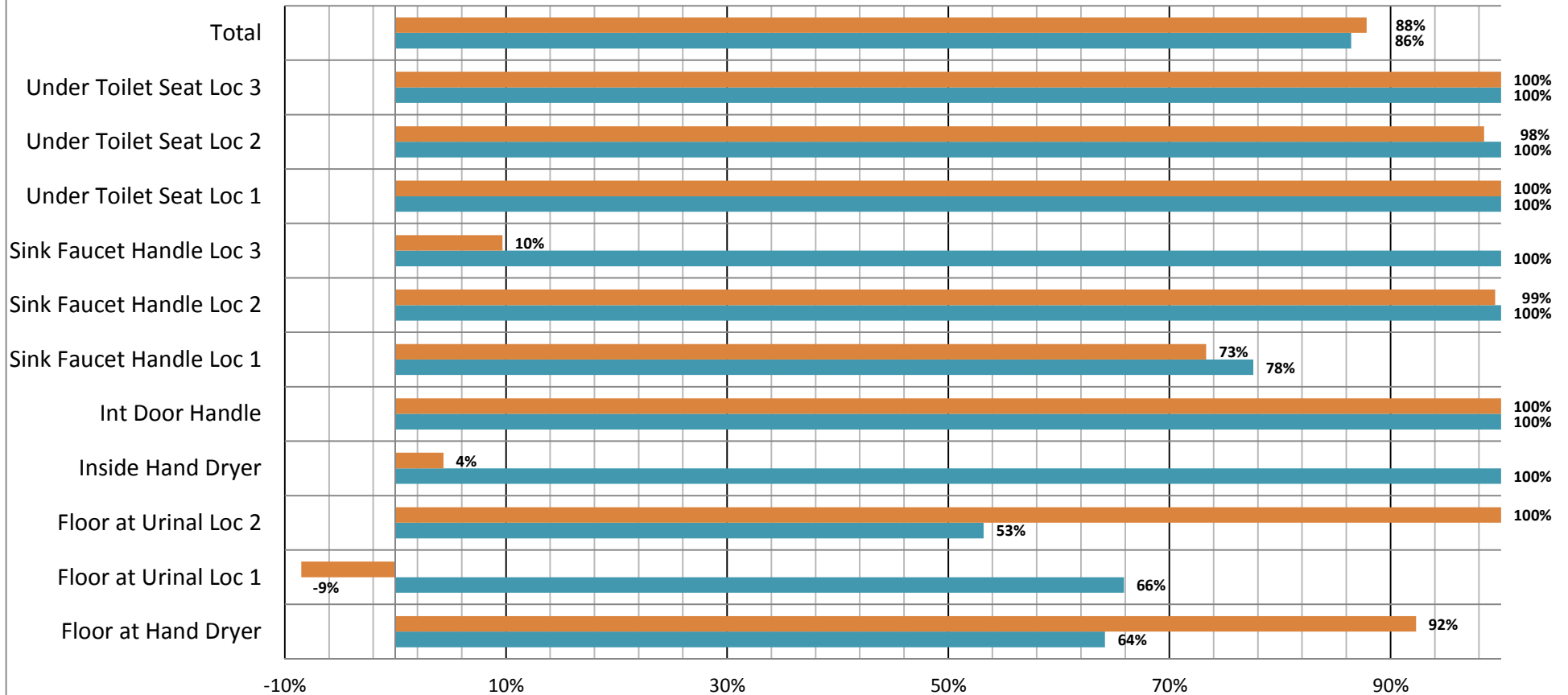
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CLEANING SOLUTIONS



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(EXPSS4 060310)

## Activelon Water Cleaning versus Green Chemical Cleaning

### Percentage Improvement of ATP Test



■ Chemical
 ■ Activelon

ATP = ATP is a [molecule](#) found in and around living [cells](#), and as such it gives a direct measure of biological concentration and health. ATP is quantified by measuring the light produced through its reaction with the naturally-occurring [firefly](#) enzyme [luciferase](#) using a [luminometer](#). The amount of light produced is directly proportional to the amount of living organisms present in the sample.

Fixture Task Times

Conventional Cleaning Methods

Fixture	Time										Average Time
Toilet	0:44	1:44	1:05	1:30	0:57	1:31	1:01	0:54	0:55	1:01	1:08
Sink	1:07	1:22	0:52	0:58	1:01	0:58	0:35	0:25	0:49	0:46	0:53
Urinal	1:02	1:07	1:34	0:31	0:48						1:00

Activelon Cleaning Method

Fixture	Time		Average Time
Toilet	0:57	0:53	0:55
Sink	0:44	1:05	0:54
Urinal	1:12	0:41	0:56



## ACTIVEION CLEANING SOLUTIONS: IT PAYS TO BE FREE!

**Surfaces:** Desks, Walls, Floors (Carpet), Floors (Wood), White Boards, Windows, Mirrors, Stainless Steel, Granite, etc

### Current Chemical Costs

	Per Year	
General Purpose Hard Surface Cleaner	\$ 2,483	←insert value
Glass/Mirror Cleaner	\$ 815	←insert value
Carpet Spotter	\$ 1,705	←insert value
Stainless Steel Cleaner	\$ 233	←insert value
White Board Cleaner	\$ -	←insert value
Natural Stone Cleaner (Granite/Marble)	\$ -	←insert value
Wood Floor - Small Area	\$ -	←insert value
Sanitizer	\$ 4,526	←insert value
<b>Total Current Chemical Costs</b>	<b>\$ 9,763</b>	

Number of Employees Using "Spray Bottles"	25	←insert value
Average Monthly Chemical Costs per employee	\$ 32.54	
Average Monthly Activeion cost per employee	\$ 29.52	first year

### Hard Savings

<b>Monthly per Employee Year 1</b>	\$ 3.02
<b>First Year Total</b>	\$ 907
<b>Subsequent Years per Employee</b>	\$ 391
<b>Subsequent Years Total</b>	\$ 9,763

<b># of Activeion Units Needed</b>	<b>24</b>
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<b>Activeion Per Unit Cost</b>	<b>\$369</b>	←insert value
<b>Time to Payout</b>	<b>10.89</b>	months
<b>Annual Savings</b>	<b>\$ 9,763</b>	

### Don't Forget about the Soft Savings/Benefits

Reduced Chemical Disposal Issues	Far Fewer MSDS Sheets to Manage
Reduced Time Spent Ordering Chemicals	Getting More Done With Less
Reduced Space Required to Store Chemicals	Simplified Employee Training
Increased Safety for Staff and Building Occupants	Better for the Environment
Improved Image with Customer / Building Occupants	PEACE OF MIND!

UPDATED 11/18/10

**Current ACS Chemical Inventory to be Returned**

<b>Product Description</b>	<b>Qty</b>	<b>Packaging</b>	<b>Other</b>	<b>Price Per Unit</b>	<b>Total Value</b>
Hepastat 256	24	Cases		\$ 53.57	\$ 1,285.68
Hepastat 256	43	Bottles		\$ 53.57	\$ 767.84
SE 61	5	Cases	Glass Cleaner	\$ 43.60	\$ 218.00
SE 61	28	Bottles	Glass Cleaner	\$ 43.60	\$ 406.93
SE 62	15	Cases	Carpet	\$ 51.14	\$ 767.10
SE 62	14	Bottles	Carpet	\$ 51.14	\$ 238.65
SE 64	14	Cases	Neutral Cleaner	\$ 54.36	\$ 761.04
SE 64	44	Bottles	Neutral Cleaner	\$ 54.36	\$ 797.28
SE 66	5	Cases	Disinfectant	\$ 60.34	\$ 301.70
SE 66	3	Bottles	Disinfectant	\$ 60.34	\$ 60.34

\$ 5,604.56