

# For Skeptics Only.

The ionator EXP™ and ionator HOM™ by Activeion™ Cleaning Solutions are handheld appliances that use electrical charges to temporarily alter regular tap water so that they clean and kill germs — without using cleaning chemicals. These products do not cause harm to skin, eyes, or when ingested or inhaled, and do not carry any chemical-related health warning labels. They are great multi-surface cleaners and kill the 2009 Pandemic H1N1 Influenza A virus and more than 99.9% of most harmful bacteria (E. coli, VRE, Salmonella, MRSA, Pseudomonas, Staph, Listeria and E. coli O157:H7) when used as directed.

Activeion™ has many happy and enthusiastic customers in households, businesses and governments all over North America and Europe. Many of them started out as skeptics; after all, the ability to clean and sanitize using only natural tap water can sound too good to be true. **If you are among the skeptics, cynics, disbelievers or zealous fans of chemical cleaners, this is for you!**



**“CLEANING CHEMICALS SEEM TO WORK JUST FINE. WHY BUY AN EXPENSIVE DEVICE?”**

## PEOPLE SWITCH FROM TRADITIONAL CHEMICALS TO ACTIVEION FOR MANY REASONS:

**GREENER IS BETTER** — Activeion is good for people, pets and the environment. We asked the Center for Clean Products/Ecoform at the University of Tennessee to analyze the environmental impact of our technology compared to chemical cleaners. The analysis concluded that switching to Activeion technology would reduce the categories of pollution from cleaning by 99% over the life cycle of the device and save substantial amounts of energy.

**DON'T JUST CLEAN, SANITIZE** — Activeion technology doesn't just clean as well as or better than other general purpose and specialized cleaners, but it also kills germs — like the 2009 Pandemic H1N1 Influenza A virus and more than 99.9% of most harmful bacteria (E. coli, VRE, Salmonella, MRSA, Pseudomonas, Staph, Listeria and E. coli O157:H7).

**PAY NOW OR PAY LATER** — The average US household spends more than \$78 per year on a smorgasbord of cleaning products - glass cleaner, carpet cleaner, stainless steel cleaner, sanitizer, granite cleaner, leather cleaner, wood cleaner, and so on. Activeion offers a single appliance that is a multi-surface cleaner, eliminating the hassle and cost of juggling multiple chemical cleaners for many years.

**PICK YOUR RESIDUE** — Natural tap water? Or chemicals found in other cleaning products? Mothers, pet owners, caregivers, cleaning professionals, and health conscious people around the world often choose Activeion technology.

**FREE YOUR LOCK AND KEY** — Many conscientious people keep their chemical-based cleaning supplies locked away or out of reach, safe and sound. Because Activeion products use ordinary water, you need not fear. In independent tests for toxicity, Activeion products were found to have no impact on skin or eyes, or when inhaled or ingested, and carry no health related warning labels.



“SNAKE OIL? IT PROBABLY DOESN'T CLEAN BETTER THAN ORDINARY WATER.”

It is water — but with an electrical charge added to increase its ability to attract and break down dirt. Activeion products have been put through the ringer of scientific testing in order to understand how well they clean. For example, the Toxics Use Reduction Institute (TURI™) at the University of Massachusetts, Lowell, tested Activeion technology against the leading chemical cleaners. Its conclusion — Activeion cleans **as well or better than general purpose and specialized chemical cleaners**. Our own tests have reached the same conclusion over and over again.

The cleaning technology underlying our ionator EXP and ionator HOM products, Orbio ec-H<sub>2</sub>O™, has been successfully marketed by Tennant Company since late 2007 in its line of industrial and commercial floor scrubbers. Orbio ec-H<sub>2</sub>O™ was named by R&D Magazine as one of the most technologically significant developments of 2008.

The ionator EXP and ionator HOM are general purpose cleaners, not miracle cleaners. As with other products, there may be extreme cleaning problems they cannot solve, like synthetic oil spills or heavy calcium deposits. But give Activeion a try! We are so confident in the ionator EXP and ionator HOM that we offer a 30-day money-back guarantee. If you use one of our products and don't like it, simply return it for a full refund.

“YOU CLAIM THAT THE IONATOR KILLS GERMS, BUT ALL I SEE, SMELL AND TASTE IS WATER. AM I BEING DUPED?”

(WARNING: LOTS OF GERMS WERE HARMED IN THE MAKING OF THESE PHOTOGRAPHS.)

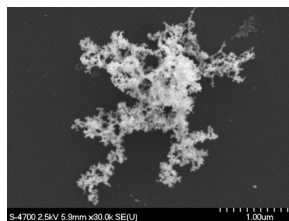
The human eye can't see germs—nor can it see Activeion technology killing the germs. This killing process, called “irreversible electroporation,” sends a low level electrical charge into germs and bacteria that permanently ruptures their cell membrane.

A scanning electron microscope at a major university studied the effects of electroporation in Activeion technology. The images below show representative Escherichia coli (E.coli) and Staphylococcus (Staph) bacteria before and after applying the Activeion device in a two-second spray.

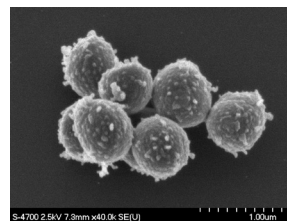
Bacteria cell walls are clearly compromised and these germs are dead, along with their chance of causing sickness or infection.



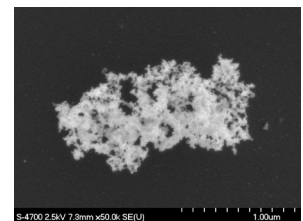
E.COLI – NO SPRAY



E.COLI – AFTER TWO-SECOND SPRAY



STAPH – NO SPRAY



STAPH – AFTER TWO-SECOND SPRAY

*Note: These electron micrographs were obtained by the Characterization Facility at the University of Minnesota, pursuant to a study conducted by Orbio Technologies, a Tennant Company Group and licensing partner of Activeion.*

For Activeion to legally claim that the ionator EXP and ionator HOM kill germs, the United States EPA requires that every claim be validated by proper testing at an independent laboratory. The testing must comply with a specific EPA protocol, called the Good Lab Practice (GLP) protocol. According to the lab results of Activeion's testing, when used as directed the Activeion ionator EXP and ionator HOM kill more than 99.9% of E. coli, staph, salmonella, E. coli O157:H7, pseudomonas, listeria, MRSA, VRE, and the H1N1 virus. And the lab didn't even see our pictures!



**“TESTS ARE EASY TO MANIPULATE, MAYBE EVEN FOR THE EPA. DO YOU HAVE TRULY INDEPENDENT LAB TESTS?”**

Theoretically a company could invent a test for a cleaning product, conduct it in its own lab, and claim positive results. Unlike many chemical cleaners, Activeion's products have the added ability to sanitize (meaning they kill bacteria). And sanitizing claims are regulated by the EPA. So our choice of lab and test protocol is prescribed, giving us very little control over the test methods and lab procedures. Furthermore, manipulation of microbiology testing in order to justify claims is against the law.

A description of the test process may help clarify. If a company desires to make germ kill claims on a product it has developed, it must take the following steps:

**SELECT A LAB CERTIFIED TO CONDUCT THE NEEDED MICROBIOLOGY TESTING** — this lab will by definition be an independent lab in order for its results to be valid.

**PRESCRIBE THE GERMS TO BE TESTED** — based on the germs that the company hopes its product will kill. If successful, the company will be allowed to claim in its advertising and labeling that its product kills these germs to a specific level, such as 99.9% or higher. In our case, we kill the 2009 Pandemic H1N1 Influenza A virus and more than 99.9% of most harmful bacteria (E.coli, VRE, Salmonella, MRSA, Pseudomonas, Staph, Listeria and E.coli O157:H7) when used as directed.

**THE LAB SELECTS THE PROTOCOL NEEDED FOR TESTING** — which conforms to Good Lab Practice (GLP) standards. These are standards required by the EPA in order to ensure the legitimacy and accuracy of the testing

**DEFINE HOW THE PRODUCT IS TO BE USED BY CONSUMERS** — so the lab can test the product consistent with user behavior. The process followed in the lab becomes the “how to use” instructions when the product is sold to customers. For example, chemical sanitizers might ask that the chemical sit on the germs for a certain number of minutes. Activeion prescribed that its germs be sprayed for six seconds from a distance of four inches.

**DROP THE PRODUCT OFF AT THE LAB AND WAIT TO HEAR THE RESULTS** — Some companies drop off a sample of a chemical cleaner. Activeion's “product” includes the ionator EXP and ionator HOM along with tap water. The water used in the test product was tested by another independent lab to ensure that it was representative of natural tap water. Our product works well with the wide variety of water types, and the specific pH level is not a factor in cleaning performance.

**THE LAB SENDS THE FINAL AUDITED REPORT** — to whomever paid for the test. At Activeion, we also provide copies of our tests to the EPA. Although we are not required to do so, we believe that it is important to be transparent, particularly with an innovative technology such as ours.

You can be assured that the ionator EXP and ionator HOM have been rigorously and independently tested, you can trust the sanitizing capabilities that we claim, and you can take comfort in the fact that we are not required to post any chemical-related warning labels on our products because they are not harmful to eyes or skin, or when ingested or inhaled.

**“THIS IS TOO OBVIOUS. IF CHARGING WATER REALLY WORKED TO CREATE A CLEANER, SOMEBODY WOULD HAVE DEVELOPED IT YEARS AGO.”**

The technologies used in Activeion products are an outgrowth of science that has been available for decades. The science of water electrolysis is over 100 years old, and the science of electroporation has been around for decades. Activeion was the first company to put them together to clean and sanitize in a commercial product.

In 2007, Tennant Company developed a version of water electrolysis technology, called blended stream electrolysis, that cleans using ordinary tap water. Tennant manufactures commercial cleaning equipment, is a leader in its industry and has been in business for more than 140 years.

Beginning in late 2007, Tennant has offered this technology in its line of

industrial and commercial floor scrubbers. They have branded the technology Orbio ec-H<sub>2</sub>O™, and in 2009 sold more than \$50 million in ec-H<sub>2</sub>O™-equipped scrubbers.

In 2008, Activeion Cleaning Solutions was formed to push the innovation of this technology into new areas, and the breakthroughs began. Activeion engineered the cleaning technology to function effectively in a small, handheld sprayer and at a dramatically lower cost. Additionally, Activeion combined the cleaning technology with electroporation, which has been around for many years in medical applications that depend on the manipulation of cell walls. The result has been a handheld cleaning device that also kills germs — all with natural tap water.

Since Tennant Company’s first application of ec-H<sub>2</sub>O, its blended stream electrolysis cleaning technology, Tennant has formed an arm called Orbio Technologies to help it develop and market environmentally friendly technologies under the brand name of Orbio. Activeion was originally founded under license of ec-H<sub>2</sub>O, and worked jointly with Tennant in the development of the irreversible electroporation technology. Tennant has branded the technology Orbio-E™.

The technologies embedded in the ionator EXP and ionator HOM are complex, and the subject of numerous patents and patent applications. For example, proprietary software and electronic control processes drive the cleaning and the sanitizing technology. Charged water may sound simple, but making it clean and sanitize to meet the stringent standards of customers and regulatory authorities is highly sophisticated.

**THE IONATOR EXP™ AND IONATOR HOM™ PRODUCTS DO NOT CAUSE HARM TO SKIN, EYES, OR WHEN INGESTED OR INHALED, AND DO NOT CARRY ANY CHEMICAL-RELATED HEALTH WARNING LABELS.**



**THE IONATOR EXP™ AND IONATOR HOM™ ARE GREAT MULTI-SURFACE CLEANERS AND KILL THE 2009 PANDEMIC H1N1 INFLUENZA A VIRUS AND MORE THAN 99.9% OF MOST HARMFUL BACTERIA (E. COLI, VRE, SALMONELLA, MRSA, PSEUDOMONAS, STAPH, LISTERIA AND E. COLI O157:H7) WHEN USED AS DIRECTED.**



**“I NEED THE HARD SCIENCE, NOT MARKETING SPEAK. I KNOW THAT IONS IN WATER THAT ARE TEMPORARILY CLUSTERED WITH POSITIVE AND NEGATIVE CHARGES WILL IMMEDIATELY RECOMBINE TO THEIR UNCHARGED STATE. AND WATER CANNOT HOLD AN ELECTRICAL CHARGE. CHARGED WATER DOESN'T CLEAN.”**

**(WARNING: THE TECHNICAL JARGON IN THIS COMMENT WILL BORE MOST MORTALS)**

This comment is only partially correct. But we can explain what actually does clean in the Activeion technology.

First, there are some points of possible confusion in the science community. One might be our language. While we do use the term “ionized” water to help explain the Activeion technology, we are not referring to the chemical ions (which do exist in water) but to electrical charges that the technology generates in the water.

Another point of confusion relates to which science actually does the cleaning. Virtually all products that clean and sanitize are based on chemistry — chemically-induced reactions — and this has been the standard practice for nearly 100 years. Activeion is different. Our technology applies water electrolysis, which does induce changes in water chemistry like pH levels and the oxidation reduction potential (ORP). But it does not use these changes in the water, which are barely measurable, to clean. It does not add salt to create hypochlorous (a form of bleach water), nor depend on pH or ORP.

The scientific basis for Activeion technology lies more in physics and electrical engineering than chemistry. Activeion’s process of water electrolysis, which is precisely engineered, creates harmless gases that fill nanometer-sized cavities in the water (referred to as “nanobubbles”). These nanobubbles, which are electrically charged, attach themselves to dirt particles. As the charges from the nanobubbles build up on the dirt particles, they separate from one another and break apart due to repulsion of like electrical charges, and become suspended in the water solution — allowing the dirt to be wiped away.

The principal scientific process behind the germ-killing power of the ionator EXP and ionator HOM is electroporation, which applies a low level electric field to the target cell (in our case, a bacteria or virus). This electric field creates holes in the membrane of the cell, also referred to as “porating” the cell wall. Where some scientific applications of electroporation have temporary effects on the cells, the Activeion technology is irreversible, completely breaking down the walls of bacterial cells, pathogenic viruses and other germs.

**“I WOULD BE MORE COMFORTABLE IF I KNEW THAT OTHER COMPANIES AND PEOPLE HAD BOUGHT INTO THIS TECHNOLOGY. ARE THERE OTHERS?”**

Activeion sold its first cleaning device in November 2008, and we already have thousands of satisfied customers. A sample list of customers using the ionator EXP for commercial cleaning includes:

**Target Center Arena** ..... Minneapolis, MN  
**Georgia Tech University** ..... Atlanta, GA  
**University of Wisconsin** ..... Eau Claire, WI  
**Taranta Restaurant** ..... Boston, MA  
**DCH Health Systems** ..... Tuscaloosa, AL  
**Locust Valley Schools** ..... New York, NY  
**Conscious Hotels** ..... Amsterdam, NL  
**Grand Haven Schools** ..... Grand Haven, MI  
**The Chosen Bean** ..... Australia  
**UGL Unicco** ..... Boston, MA

Tennant Company, our cross-licensing partner, markets the ec-H<sub>2</sub>O™ cleaning technology in industrial scrubber systems. Feel free to check the Tennant website for a list of their awards and representative customers. [www.tennantco.com](http://www.tennantco.com)

In addition, Activeion has many happy customers that rely on the ionator HOM to keep their households clean and sanitary. **Please see testimonials for several real-life examples at [www.activeion.com](http://www.activeion.com)**

Independent groups and organizations often recognize truly innovative technologies. In a very short 18 months, Activeion Cleaning Solutions and its products have been receiving awards and honors from many independent organizations.

**2010 KITCHEN INNOVATIONS™ AWARD** — From the National Restaurant Association, recognizing the most innovative and revolutionary new kitchen equipment from around the world.

**2009 GREEN DOT AWARD** — (Honorable Mention) from the Farmani Group, recognizing excellence in innovative environmental projects, products, and services.

**2009 FORBES.COM TOP TEN BREAKOUT BUSINESS IDEA** — from Forbes.com, recognizing the entrepreneurs, inventors, and thinkers behind the very kinds of technologies that could change the world.

**2009 HEALTHY SCHOOLS CAMPAIGN INNOVATION SHOWCASE** — from Healthy Schools Campaign, recognizing new and innovative products and services that would help create healthier school environments for students, staff and faculty.

**2008 INNOVATION AWARD** — from InClean Magazine, recognizing the Top Ten products introduced at the 2008 ISSA/InterClean trade show.

**AT ACTIVEION, WE BELIEVE WE HAVE DEVELOPED A TRULY REVOLUTIONARY DEVICE THAT WILL ENABLE US TO HELP OUR CUSTOMERS TO CREATE SAFE AND CLEAN ENVIRONMENTS. WE ALSO STRIVE TO BE A TRANSPARENT, HONEST AND ETHICAL COMPANY. WE HOPE WE CAN MOVE YOU BEYOND THE SKEPTICISM AND TOWARDS BECOMING A SATISFIED CUSTOMER!**

21308 John Milless Drive, Rogers, MN 55374 | 866.950.4667 | [activeion.com](http://activeion.com)



Made in the USA. ©2010 Activeion Cleaning Solutions, LLC.  
Patents pending, Activeion Cleaning Solutions and Tennant Company. (FSO 052510)