



# ANNIHILARE

HEALTHCARE INFECTION PREVENTION SYSTEM (HIPS)

# ***Annihilare***

- **Annihilare was founded in 2014 to promote healthy environments for all people. We utilize the newest, commercially-available technology to deliver a “New Generation of Clean.” We are not a chemical company. Our comprehensive approach to cleaning utilizes sustainable and safer solutions and methods, which allows our clients to fight germs, improve air quality, get rid of toxic chemicals, and prevent the spread of infectious disease.**
- **We offer a holistic, systematic approach to infection prevention which is comprised of three components:**
  - **On site generation of two cleaning solutions – Annihilyte, which is an EPA registered and Green Seal™ certified broad-spectrum tuberculocidal disinfectant, and Catholyte Free, a Green Seal™ certified powerful degreaser and cleaner. Both are produced from naturally-occurring ingredients**
  - **Electrostatic application**
  - **The AnniList Protocol Tracking and Facilities Management System**
- **We strive for continuous improvement and are committed to future innovation and technology.**



# ***Annihilare's Assessment of the H.A.I. Problem***

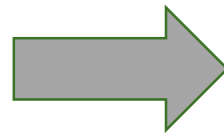
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- In the USA, 2 million people suffer from HAIs (Healthcare Associated Infections) annually leading to over 90,000 deaths. The overall direct costs to hospitals is excess of \$28B annually.
- Our focus is to make environments healthier - through fast, safe, efficient, sustainable, and environmentally conscious cleaning that produces consistent and effective results.
- Annihilare HIPS (Healthcare Infection Prevention System) effectively and efficiently cleans and disinfects surfaces with EPA registered, non-toxic, user-safe, biodegradable, fast-acting solutions utilizing our Tracking System and Smart Electrostatic Applicators to reduce labor and human error.



# ***Annihilare Healthcare Infection Prevention System (HIPS)***

- On-site production & bottling of EPA registered, Green Seal™ certified fluids
- Fluid fill & expiration dates
- Electrostatic applicators including automated carts, handheld and backpacks
- Cleaning protocol delivery system with built in “best practices” for maximum results
- “Real time” data on performance & protocol activities
- Asset tracking for equipment and inventory tracking of materials



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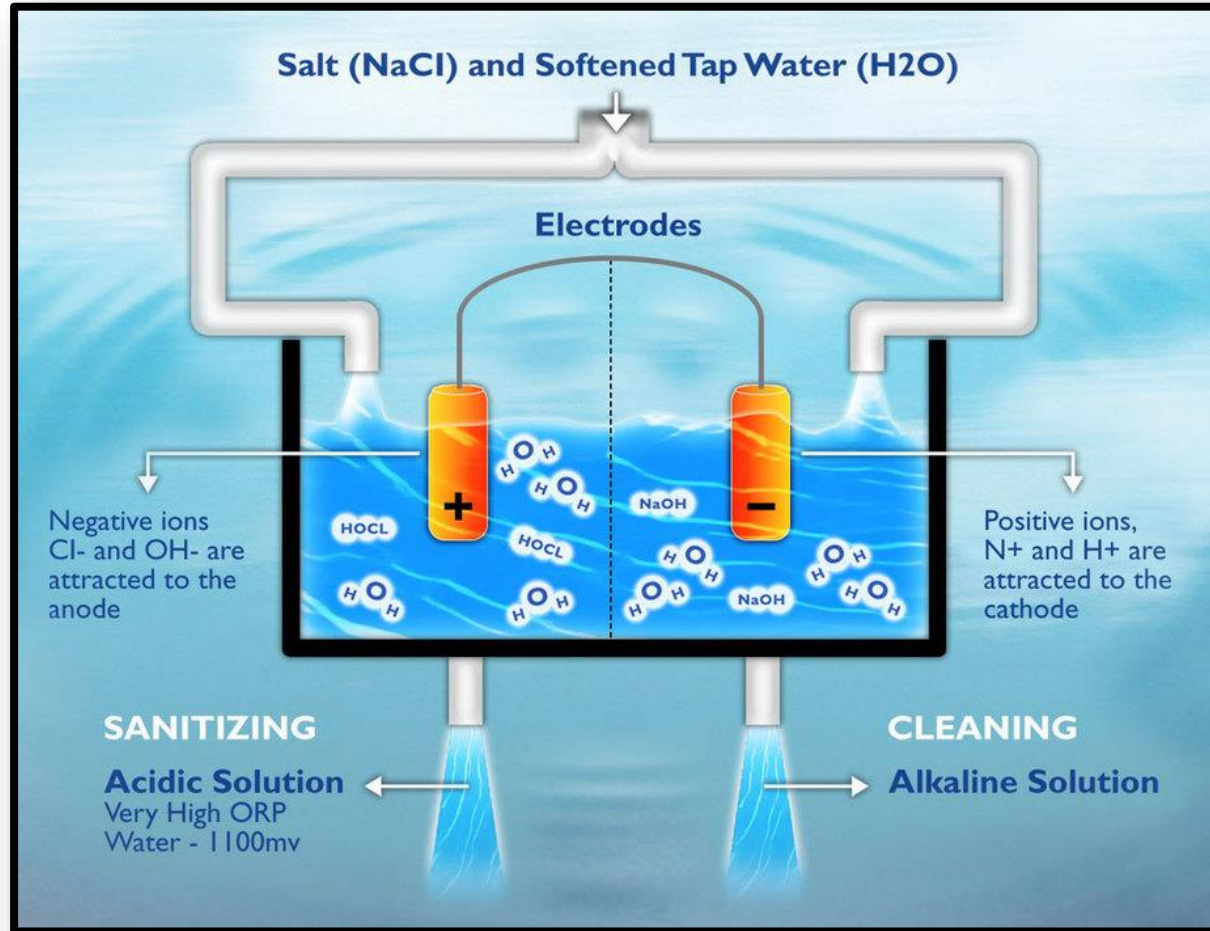
# ***Annihilare Solutions***



- **Our generator uses electrochemistry to produce Anolyte and Catholyte solutions - 500ppm hypochlorous acid (Annihilyte) disinfectant and sodium hydroxide (Catholyte Free) on-site**
- **EPA registered, tuberculocidal disinfectant**
- **Non-synthetic, Green Seal™ certified (GS-37 & GS-53) solutions**
- **Effective with efficacy up to 99.9999% of all current environmental contributing HAIs, including c.diff**
- **Annihilyte has a longer shelf life (for disinfecting applications), is generated at a near neutral pH, is benign, and water-based**

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# ***Electro-Chemical Activation Process***



- Modifies the properties of water by passing a weak salt brine solution through an electrolytic cell, temporarily converting it into two products: a powerful disinfectant and an extremely effective degreaser
  - Disinfectant – near neutral pH, Free Available Chlorine (FAC) levels may vary
  - Degreaser – Conversion of fat or oil into a soap (saponification) – leaves no residue
- Reverts back to salt water over time
- Safe for use around people and animals

# ***Annihilyte Solutions***



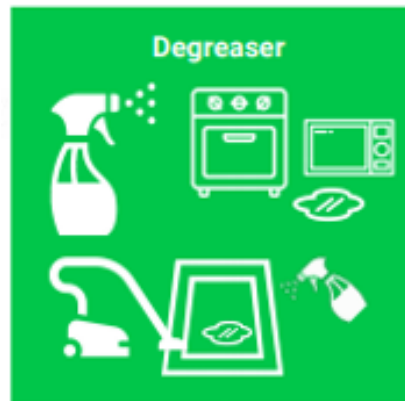
## **Annihilyte – Disinfectant**

- EPA registered, tuberculocidal disinfectant (including C. diff)
- Green Seal™ certified (GS-53) solution
- 500ppm Free Available Chlorine (hypochlorous acid)
- 30 day shelf-life
- Effective with efficacy up to 99.9999% of all environmental contributing HAIs



## **Sanitizer**

- Food contact surfaces (no rinse required)
- Daily high touch, high volume sanitizer
- 200+ppm Free Available Chlorine (hypochlorous acid)
- Simple dilution ratio – 1:1 Annihilyte to Water



## **Catholyte Free – Degreaser**

- Green Seal™ certified (GS-37) solution
- Food environments - for tough grease stains (fats and oils) and drains
- Carpet and furniture pre-spotter
- Zero residue



## **Cleaner**

- Daily high touch, high volume general-purpose solution
- Simple dilution ration – 1:4 Catholyte Free to Water

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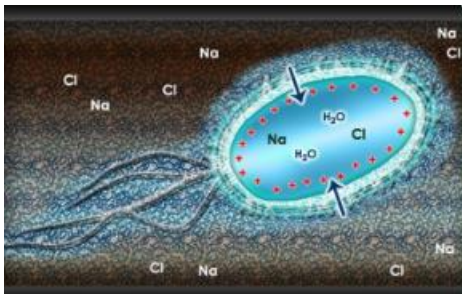
# ***Annihilyte Solutions – Pathogen Kill List***

## **BACTERIA**

- **Bordetella bronchiseptica (Kennel Cough)** (ATCC 10580)
- **Clostridium difficile – (C.Diff)**(ATCC 43598)
- **Escherichia coli (E coli)** (ATCC 11229)
- **Klebsiella pneumoniae New Delhi Metallo-Beta Lactamase (NDM-1)**  
Carbapenem Resistant (CRE) ((Klebsiella (NDM-1)(CRE))(KPC)(Carbapenem-Resistant Klebsiella pneumoniae)(CRKP), CDC 10002
- **Listeria monocytogenes** (Listeria)(ATCC 7644)
- **Methicillin-Resistant Staphylococcus aureus (MRSA)** (ATCC 33591)
- **Pseudomonas aeruginosa (Pseudomonas)** (ATCC 15442)
- **Salmonella enterica (Salmonella)** (ATCC 10708)
- **Staphylococcus aureus (Staph)** (ATCC 6538)
- **Vancomycin Resistant Enterococcus faecalis (VRE)** (ATCC 51229)

## **MYCOBACTERIUM**

- **Mycobacterium bovis, BCG** (Tuberculosis or TB)



## **PARVOVIRUS/VIRUSES (NON-ENVELOPED)**

- **Canine parvovirus** (ATCC VR-2016)
- **Adenovirus (1 or Type 1) (Strain 71)**(ATCC VR-1)
- **Norovirus or Norwalk Virus (as Feline Calicivirus)(Strain F-9)**(ATCC VR-782)
- **Rhinovirus (16 or Type 16)(Strain 11757)**(ATCC VR-283)
- **Rotavirus (A or Group A)(Strain WA)**(ATCC VR-2018)

## **VIRUSES (ENVELOPED)**

- **Canine distemper** (ATCC VR-1587)
- **Hepatitis C** (ATCC VR-1422)
- **Human Immunodeficiency Virus Type 1 (HIV-1)**, strain IIB (clade B); ZeptoMetrix
- **Influenza A (H1N1) Virus** (ATCC VR-1736)
- **Influenza A Virus (H1N1) A/Swine/1976/31** (ATCC VR-99)
- **Respiratory Syncytial Virus (RSV)** (ATCC VR-1540)
- **Swine Flu Virus (H1N1) A/Swine/1976/31** (ATCC VR-99)

## **Yeast**

- **Candida albicans** (ATCC 10231)

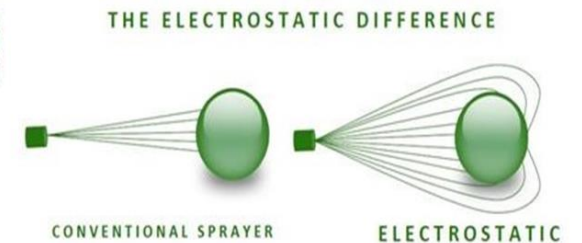
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# ***Electrostatic Application***

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- **The ESP 360 spray cart can be used alone or in tandem with other sprayer units**
- **Total room and area disinfecting resulting in better coverage and results**
- **Evenly applies Annihilyte to the surrounding area**
- **Coverage area up to 21,000 square feet**



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# How Electrostatic Applications Work

Electrostatic sprayers change the electrical charge of the particles in whatever solution is sprayed to go from Neutral (+’s and -’s) to either Positive (+) or Negative (-).

**All Positive**



**75X Than Gravity**



Because of this charge, sprayed charged particles will have an attraction up to 75 times that of gravity and will seek out items to land on versus “floating” in the air.

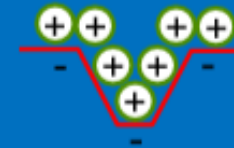
As the like charged particles land, they avoid colliding in the air or landing on each other since they have the same charge so they spread out evenly across all sprayed surfaces providing excellent solution coverage.

**No Pile Up.**



(TOP VIEW)

**Cover All Sides**



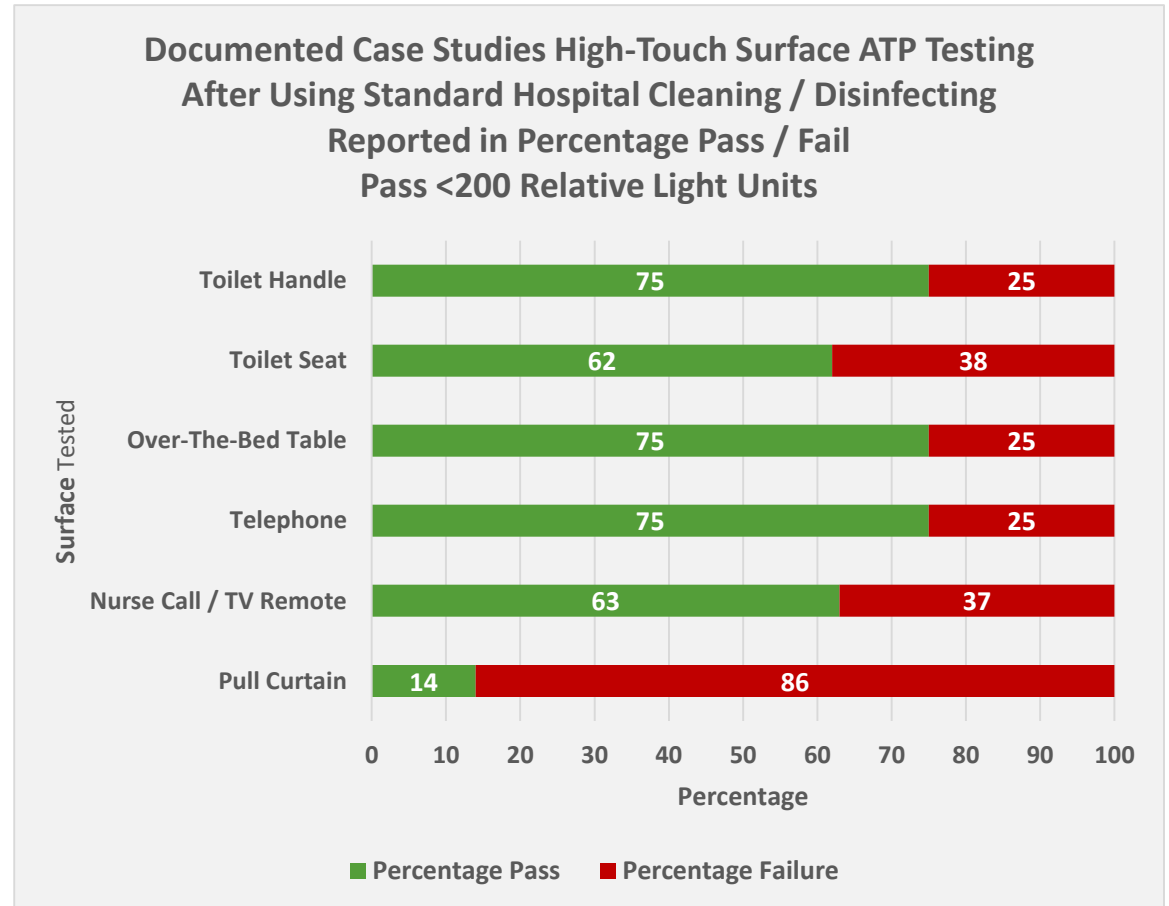
(SIDE VIEW)

If the sprayed particles have the opposite charge as the material they are sprayed on, the electrical force will even cause the particles to reverse course and coat hidden and hard to reach surfaces that would typically be missed by conventional spraying or wiping.

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# ***Area Testing – Before Hypochlorous Usage & Electrostatic Application***

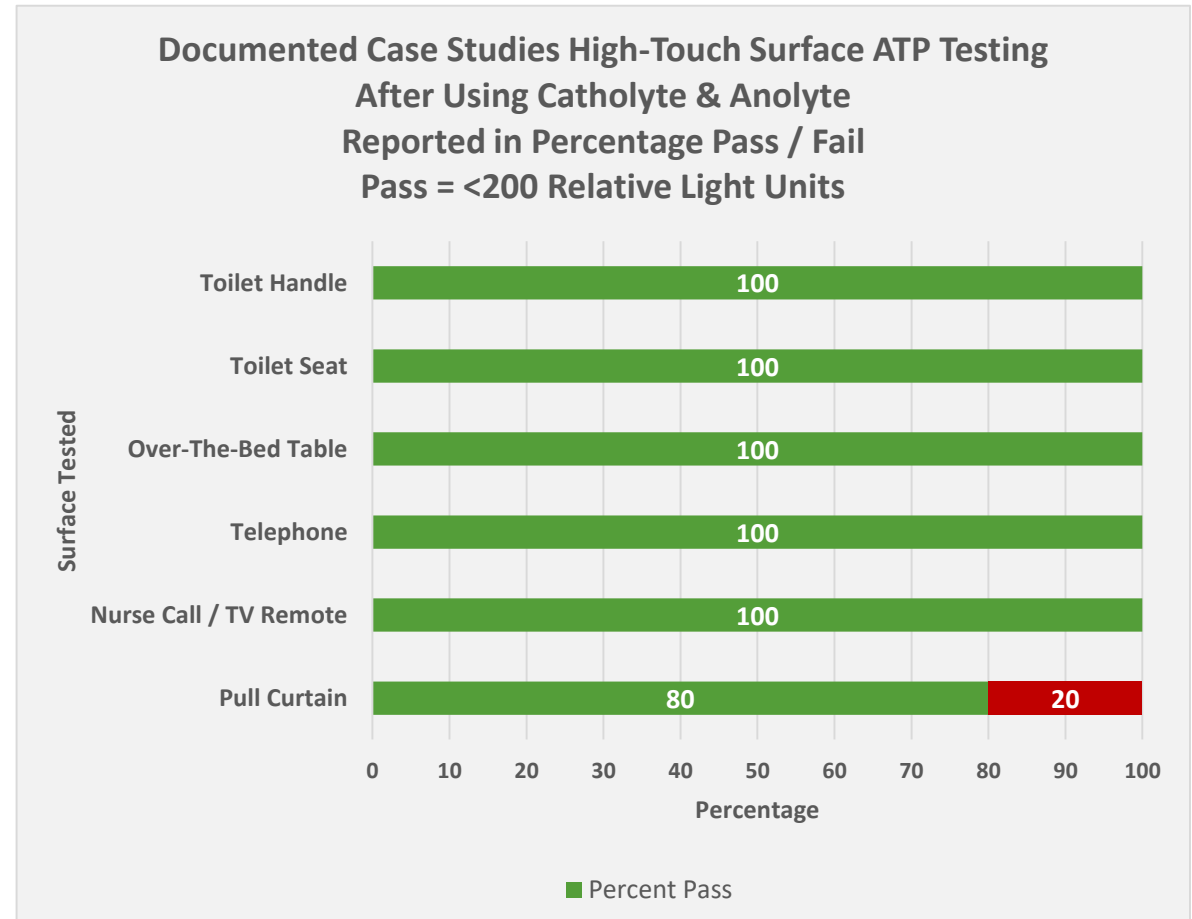
- Documented Case Study - Standard Cleaning Setup – Control
- EVS staff use standard terry cloths, quaternary ammoniated disinfectants from dispensers, and synthetic loop fiber floor pads
- Readings from ATP and culture swab tests yielded an average of a 35% fail rate on high-touch surfaces



Source: UNC Healthcare – Johnston Hospital

# ***Area Testing – After Hypochlorous Usage & Electrostatic Application***

- Documented Case Study – Anolyte and Catholyte
- EVS staff integrated Anolyte and Catholyte solutions with electrostatic smart applicators and microfiber clothes
- Readings from ATP and culture swab tests resulted in a greater than 97% pass rate for tested high-touch surfaces



Source: UNC Healthcare – Johnston Hospital



# ***AnniList Tracking System***

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- Protocol tracking and reporting platform that uses RFID/NFC and QR technology
- Secure, cloud-based storage of real-time data
- “Tap, check & go” system
- Customized area/room tracking and staff performance protocols
- Total facility management tool:
  - Inspections and work-orders
  - Equipment usage tracking
  - Notifications and alerts
- Detailed reporting for inventory and protocol performance
- Simple to modify or add protocols based on facility needs or when the environment changes

## ***Next Steps***

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- **Questions**
- **Product Demonstration**
- **Site Survey and Assessment**
- **Service Contract Proposal**

