



# Get the Facts Straight on Electrostatic Spray Technology





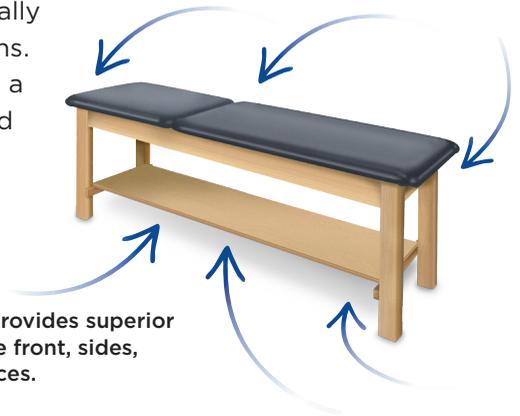
# Myth

All electrostatic sprayers are the same

# Fact

Not all electrostatic sprayers are created equal

The effectiveness of an electrostatic sprayer is determined by a combination of factors, including power delivered to the device, type and size of nozzle, spray pressure, and spray solution. These factors impact how well a sprayer covers a surface with solution. Some companies sell only one piece of the system (typically the sprayer), and other companies sell only solutions. It is important to test specific solutions paired with a specific electrostatic sprayer to ensure efficient and effective surface coverage.<sup>1</sup>



Electrostatic spray technology provides superior uniform coverage — reaching the front, sides, underside and backside of surfaces.



The Clorox® Total 360® system pairs an electrostatic sprayer with approved Clorox® disinfectants and sanitizers. The patented electrostatic technology enables superior coverage of trusted Clorox® solutions in hard-to-reach places.





# Myth

Electrostatic sprayers and foggers are the same

# Fact

Electrostatic sprayers are fundamentally different from fogging devices

Electrostatic sprayers actively deliver larger-sized electrostatically charged droplets to surfaces, including the back sides of surfaces, regardless of the direction of spray. In contrast, fogging systems deliver very small droplets (typically with a particle size of approximately 10  $\mu\text{m}$  or less) that passively deposit on surfaces based on the direction of spray and the effect of gravity. Foggers typically must be operated in unoccupied rooms, with vents and doors sealed, while electrostatic sprayers are actively operated by a person wearing the appropriate personal protective equipment (PPE) recommended for the sprayer plus solution system. Foggers also typically have long re-entry times to prevent exposure to the aerosolized products these systems emit, while electrostatic sprayers may have short or no re-entry times for bystanders, as determined by occupational exposure monitoring of the sprayer when paired with a specific solution.<sup>2,3</sup>



**The advanced Clorox® Total 360® electrostatic sprayer delivers electrostatically charged droplets that are actively attracted to surfaces, including the back sides of surfaces, regardless of the direction of spray.**





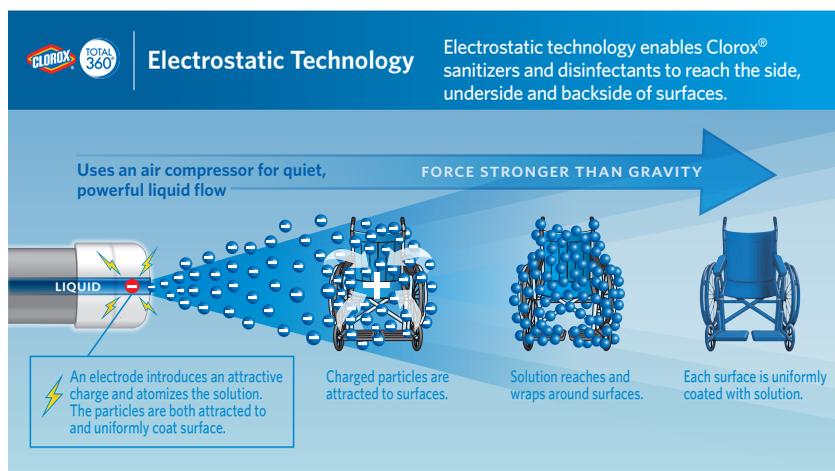
# Myth

Battery-powered sprayers are the same as AC-powered sprayers

# Fact

AC power offers distinct advantages over battery power for electrostatic effectiveness

Systems that rely on AC power from a standard electrical outlet provide more consistent surface coverage and electrostatic wrap than battery-powered units. In addition, AC-powered systems can support the use of an air compressor, which actively pushes liquid away from the operator so that droplets are deposited on surfaces and not on the person operating the device. Battery-powered units rely on lower power fans that are less capable of preventing blowback of chemicals onto the operator.



The Clorox® Total 360® sprayer is AC-powered and uses an air compressor to deliver a superior and consistently strong spray.



Sprayer Power Supply



# Myth

Any solution can be sprayed through any electrostatic sprayer

# Fact

Electrostatic sprayers should be paired with trusted solutions to ensure compatibility of those solutions with the device

The safety profile of a solution potentially changes when sprayed through an electrostatic sprayer. Solutions should always be rigorously tested for compatibility with the electrostatic sprayer before use. Testing should include evaluating the impact of chemical solutions on any device components, operators and bystanders that a solution may come into contact with during operation. Only compatible solutions should be recommended for use through the sprayer. Refer to the operator's manual for instructions on how to use specific solutions through a specific electrostatic sprayer.



**Clorox has rigorously tested the compatibility of the Clorox® Total 360® sprayer with Clorox-approved solutions.**





# Myth

Bystander safety and re-entry time do not need to be evaluated for an electrostatic spraying system

# Fact

Electrostatic sprayers should be paired with trusted solutions to help ensure safe use of the solution with the device

Electrostatic sprayers are only one part of a system and should be paired with trusted solutions that have been rigorously tested for bystander safety to determine if re-entry times are needed when a solution is used through a particular sprayer. Re-entry times depend on a variety of factors, such as chemistry and use environment (e.g., room size, room ventilation).



**Clorox provides information on bystander safety for each of the Clorox-approved solutions paired with the Clorox® Total 360® system.**





# Myth

Operator safety does not need to be evaluated for an electrostatic sprayer system

# Fact

Electrostatic sprayers should be paired with trusted solutions to help ensure safe use of the solution with the device

Electrostatic sprayers are only one part of a system, and should be paired with trusted solutions that have been rigorously tested for operator safety when used through that particular sprayer. Operator personal protective equipment (PPE) depends on a variety of factors, such as chemistry and use environment (e.g., room size, room ventilation). Consult SDSs for additional precautionary measures. All electrostatic sprayers should be evaluated by a Nationally Recognized Testing Laboratory (such as Underwriters Laboratories or Intertek) to ensure operator safety and overall safety to people and property.<sup>4</sup>



**Clorox provides information on operator safety for each of the Clorox-approved solutions paired with the Clorox® Total 360® system. The Clorox® Total 360® system is Underwriters Laboratories (UL) Listed.**





# Myth

Microefficacy does not need to be evaluated when using an EPA-registered disinfectant through an electrostatic sprayer

# Fact

Evaluation of any EPA-registered antimicrobial is critical to assess for microefficacy

Demonstration of microefficacy (i.e., how well a solution kills microorganisms such as bacteria and viruses) of a solution when delivered by an electrostatic sprayer is important. Efficacy evaluations should be conducted following standard methods and should be consistent with any product labeling.



Efficacy testing of the Clorox Commercial Solutions® Clorox® Total 360® Disinfectant Cleaner<sub>4</sub> when sprayed through the Clorox® Total 360® system has demonstrated efficacy according to standard methods.





1. Fritz, B. K.; Hoffmann, W. C. Measuring Spray Droplet Size from Agricultural Nozzles Using Laser Diffraction. J. Vis. Exp. 2016, No. 115, e54533–e54533.
2. Vincent, J. H. Aerosol Science for Industrial Hygienists; Pergamon, 1995.
3. Kulkarni, P.; Baron, P. A. Aerosol Measurement: Principles, Techniques, and Applications; Wiley, 2011.
4. Underwriters Laboratories. UL - 73 Standard for Motor-Operated Appliances | Standards Catalog [https://standardscatalog.ul.com/standards/en/standard\\_73\\_10](https://standardscatalog.ul.com/standards/en/standard_73_10) (accessed May 31, 2018).



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