

ELECTROSTATIC SPRAYERS



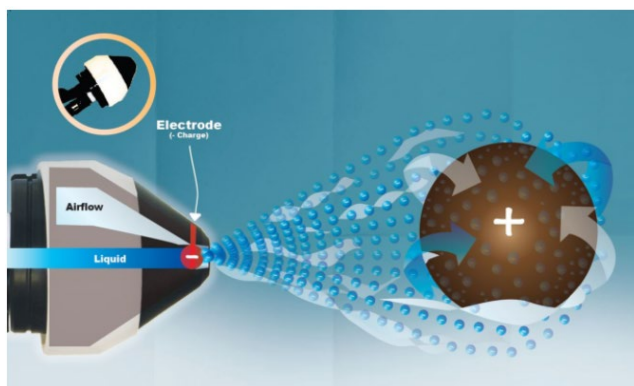
The use of electrostatic sprayers for cleaning and disinfecting surfaces that are potentially or known to be contaminated with SARS-CoV-2 virus have been identified as an alternative disinfection method. Electrostatic sprayers are typically used by custodians or other units tasked with disinfecting large areas.

ELECTROSTATIC SPRAYERS



Electrostatic sprayers used for disinfecting surfaces can be effective for disinfecting large areas or equipment that is hard to access by manual disinfection practices.

Electrostatic spray disinfection systems turn disinfectant liquid into charged aerosols with an average size of 40 to 80 micrometers (μm) that are actively attracted to surfaces, thereby enhancing the surface coverage. The device is intended to be used with a variety of different disinfectants and sanitizers.



The disinfecting products used with these sprayers must be the U.S. Environmental Protection Agency (EPA) registered for SARS-CoV-2 (the virus that causes COVID-19 illness) and be approved for electrostatic spray application.

In addition to following the product label instructions, personnel using an electrostatic sprayer be sure to:

- **Limit the particle size** to a volume median diameter of greater than or equal to $40\ \mu\text{m}$ (regardless of the ability to change nozzles that impact particle size), according to the EPA.
- Note the **contact time** for the product you are using (look up contact time on the [EPA List N Search Page](#)). Reapply if the surface dries before the contact time is reached.
- Note the **minimum and maximum distances** listed on the product label; stay within these distances (measured from the sprayer to the treated surface) for greatest effectiveness.
- Personnel *not* involved in application must *not* be in the room during electrostatic spray application.

Search EPA List N to verify product use

List N: Products with Emerging Viral Pathogens AND Human Coronavirus claims for use against SARS-CoV-2

EPA Registration Number	Active Ingredient(s)	Product Name	Company	Contact Time (in minutes)
67619-38	Quaternary ammonium	CloroxPro™ Clorox Total 360® Disinfecting Cleaner1	Clorox Professional Products Company	2

Formulation Type Ready-to-use; Electrostatic spray (Clorox® Total 360® system)

Surface Types Hard Nonporous (HN); Food Contact Post-Rinse Required (FCR)

Use Sites Healthcare; Institutional; Residential

Why is this product on List N? Kills a harder-to-kill pathogen than SARS-CoV-2 (COVID-19); Emerging viral pathogen claim

Find out more about [EPA's expedited review process](#) for EPA registered disinfectants for use against SARS-CoV-2 and electrostatic spray application.

RISK ASSESSMENT

There is always some risk involved with aerosolizing any chemical. A **risk assessment or job hazard analysis** should be conducted to assess the risks of electrostatic applications of disinfectants for each activity:

1. Include the equipment users, maintenance and safety personnel.
2. Gather the product information, including safety data sheets (SDSs).
3. Go to the location to where the spraying will occur to understand all potential risks.





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Enter information electronically in [Microsoft Word](#) document file and save to device. Or print document to enter information manually.

Job Hazard Analysis

University of Washington: Choose or type a location	Department: Click to enter text
Activity or Process: Click to enter text	Building/Room: Click to enter text
Job Title: Click to enter text	Supervisor: Click to enter text
Prepared By: Click to enter text	Date: Click to enter a date

This document is the certification of hazard assessment for PPE for the workplace.

TASKS/STEPS	HAZARDS; CONSEQUENCES	CONTROLS (SAFEGUARDS)	PHOTO
1 Click to add first task/step	<ul style="list-style-type: none"> Click to add a hazard Click to add a hazard Click to add a hazard 	<ul style="list-style-type: none"> Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control 	 
2 Click to add second task/step	<ul style="list-style-type: none"> Click to add a hazard Click to add a hazard Click to add a hazard 	<ul style="list-style-type: none"> Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control Click to add a control 	 

Common hazards and controls when using sprayers:

Hazard	Control
Electrical; shock, arc, fire	Grounding, insulated power cord, repair performed by manufacturer only
Chemical; disinfectant hazards	Diluted disinfectant, personal protective equipment (PPE), hazard communication and training
Ergonomic; musculoskeletal strains and repetitive motion injuries – pushing/pulling; backpack; lifting	Use sprayer on rolling cart, reduced disinfectant volume to reduce weight, regular employee breaks

To reduce the risk of injury and potential damage to surfaces and equipment in the application area, it is important to follow all manufacturer instructions and seek guidance as needed.

Please contact EH&S at ehsdept@uw.edu for more information about electrostatic spraying.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Wear the personal protective equipment (PPE) listed on the product label or SDS. At a minimum, the following PPE should be worn while using an electrostatic sprayer:

- Protective clothing: disposable gown, Tyvek coveralls or lab coat
 - Chemical goggles (non-vented)
 - Face shield (if splash or spray to face possible)
 - Disposable gloves (nitrile ≥ 5 mil)
 - [Respiratory protection](#)
- **For chemicals that have low vapor pressures** (less than 1. X 10⁻⁴ mm Hg), use N95 filtering facepiece respirators or half-face respirators with N95 filters. Contact EH&S for [Respiratory Program](#) requirements.
- **For high vapor pressure chemicals** (greater than 1. X 10⁻⁴ mm Hg), such as hydrogen peroxide, use half face respirators with chemical specific cartridges and N95 filters. Contact EH&S for [Respiratory Program](#) requirements.



Administrative controls may also be implemented to reduce risk of injury, such as rotating employees and limiting the amount of time employees spray disinfectants with electrostatic sprayers.

For information selecting and procuring PPE based on performance standards, see the EH&S [COVID-19 PPE and Supplies Performance Standards and Guidelines](#).

Prior to using an electrostatic sprayer for applying disinfectant chemicals, please contact EH&S for consultation.