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.

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 µm (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](https://www.epa.gov)). 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.

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.

Find out more about [EPA’s expedited review process](https://www.epa.gov) 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.

Common hazards and controls when using sprayers:

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

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.

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 and face shield
- 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.

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