Disinfectant Fogging Solution
Contains Hydrogen Peroxide
Ready-to-use, bleach free, healthcare-grade disinfectant
Dry Mist - no wipe, no rinse
Makes whole room disinfection easier.
Reduces risk of cross contamination associated with using a rag, wipe or sponge.

Active Ingredients:
Hydrogen Peroxide .................. 5.00%
Silver ................................ 0.01%
Other Ingredients ..................... 94.99%
TOTAL .............................. 100.00%

CAUTION
KEEP OUT OF REACH OF CHILDREN
See side panel for additional Precautionary Statements
Net Contents: 128 FL OZ (1 GAL)
<table>
<thead>
<tr>
<th>Content</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caution Statements</td>
<td>3</td>
</tr>
<tr>
<td>Operation Warnings</td>
<td>3</td>
</tr>
<tr>
<td>Walk Around of Sanosil HaloFogger</td>
<td>4</td>
</tr>
<tr>
<td>Getting Started with the Sanosil HaloFogger</td>
<td>5</td>
</tr>
<tr>
<td>1. General Information</td>
<td>6</td>
</tr>
<tr>
<td>1.1 Sanosil HaloMist</td>
<td></td>
</tr>
<tr>
<td>2. Sanosil HALOMIST Application Process</td>
<td>6</td>
</tr>
<tr>
<td>3. User Safety Requirements</td>
<td>6</td>
</tr>
<tr>
<td>4. Disinfection Management Plan</td>
<td>6</td>
</tr>
<tr>
<td>4.1 General</td>
<td></td>
</tr>
<tr>
<td>4.2 Personnel</td>
<td></td>
</tr>
<tr>
<td>4.3 Monitoring</td>
<td></td>
</tr>
<tr>
<td>4.4 Sealing Procedures</td>
<td></td>
</tr>
<tr>
<td>4.5 Application Procedures and Disinfection Period</td>
<td></td>
</tr>
<tr>
<td>4.6 Post-Application Operation</td>
<td></td>
</tr>
<tr>
<td>4.7 Criteria for Successful Disinfection</td>
<td></td>
</tr>
<tr>
<td>5. Sanosil HaloFogger Use Instructions</td>
<td>8</td>
</tr>
<tr>
<td>5.1 Room Preparation</td>
<td></td>
</tr>
<tr>
<td>5.2 Room Set Up</td>
<td></td>
</tr>
<tr>
<td>5.3 Treatment Procedure Protocol</td>
<td></td>
</tr>
<tr>
<td>5.4 Re-Entry Instructions</td>
<td></td>
</tr>
<tr>
<td>5.5 Releasing Room for Re-Occupancy</td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td>11</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>12</td>
</tr>
<tr>
<td>Replacement Parts</td>
<td>12</td>
</tr>
<tr>
<td>Re-Order Number</td>
<td>12</td>
</tr>
<tr>
<td>Storage and Disposal</td>
<td>13</td>
</tr>
<tr>
<td>Specifications of Sanosil HaloFogger</td>
<td>13</td>
</tr>
<tr>
<td>Draining the HaloFogger</td>
<td>13</td>
</tr>
<tr>
<td>Registration and Warranty</td>
<td>14</td>
</tr>
<tr>
<td>Notes</td>
<td>15</td>
</tr>
</tbody>
</table>
Caution

A caution statement in this manual identifies a condition or practice which, if not corrected or discontinued immediately, could lead to serious injury or death.

1. KEEP OUT OF REACH OF CHILDREN.

2. Carefully read all instructions, warnings, cautions and first aid statements prior to use.

3. Do not enter room while HaloFogger is in use. Stay out of the room after treatment until room re-entry wait time has expired. Keep door and windows closed.

4. Use only as directed.

5. Allow the full post-treatment wait time before re-occupying the room. Re-entry before the wait time has expired could result in sensory irritation and should only be done while using proper personal protection equipment (PPE) including wrap-around style goggles, 3M respirator mask and gloves.

6. Avoid inhalation of vapors or skin and eye contact with Sanosil Disinfectant fog.

7. The HaloFogger is designed for ease-of-use. However, only properly trained individuals should use this device.

8. Electric shock hazard. Do not plug in if electrical plug or parts are wet.

9. There are no user-serviceable parts inside the Halo other than the nozzle. An operator may only perform maintenance procedures specifically described in this manual. The manufacturer should make all other repairs.

10. While in use, the body of the HaloFogger may become warm to the touch. Use caution when handling.

11. Use personal protection equipment (PPE) including wrap-around style goggles and gloves when pouring disinfectant fluid into the device. Avoid splashing or overfilling which could harm the user and/or the device.

12. Sanosil International is not responsible for any injury or damage caused by using this device outside of the specific parameters detailed in this manual.

Operation Warnings

These warnings pertain to the actual use of the HaloFogger™ unit.

1. To ensure effectiveness and safety, use only with Sanosil HaloMist™. Using any other manufacturers’ disinfecting or cleaning product will result in serious injury, exposure and environmental damage.

2. Position the device on a secure surface to prevent rolling or moving while in use.

3. Use only a Sanosil supplied electrical cord.

4. Always unplug the power cord from the outlet before moving the device.

5. Clean debris from the device nozzle and funnel on a regular basis according to the instructions in this manual (see Maintenance).

6. Regularly check disinfectant fluid level to ensure sufficient volume is present to treat each particular room size.

7. Do not set the timer for longer than the suggested fogging time. Excessive fogging can create condensation, which may activate fire alarm systems.

8. Protect this device from severe impact or shock.

9. Take care to prevent water or other fluid from entering the device. Should this occur, allow to completely dry before use. Check the accuracy of all operating functions.

10. Do not tip the Sanosil HaloFogger on its side at any time unless completely empty and dry.

11. Store Sanosil HaloFogger in an upright position, in a safe, dry location. Do not place anything on top of the device.

12. Additional warning and caution statements are included for Sanosil HaloMist.
Walk Around Tour of the Sanosil HaloFogger™

Rear Handle

Status Indicator Light

High Precision Nozzle
Dry-mist of disinfectant is dispensed through nozzle.

Timer Dial
Turn the dial to set time for fogging treatment.
Fogging Time Chart can be found in the HaloFogger User Manual and on the rear panel of the Halo unit.

Start Button
Press and hold for 2 seconds to begin unit’s countdown and the treatment process.

Disinfectant Fluid Level Indicator
Shows how much disinfectant is in the reservoir and when it is time to refill.

Reservoir Door
Push and lift open to expose funnel port for refilling.

Front Handle

Reservoir Door

Funnel Port

Large Wheels
For easy maneuvering.

Power Cord Connection

Status Indicator Light - Displays the operational status of the Halo device.

Solid Green: Indicates the Halo is plugged in and ready for use

Flashing Green: Indicates the Reservoir Door is not closed correctly or an error has occurred. (Refer to Troubleshooting section of this manual)

Flashing Red: Indicates 30 second countdown after pressing the Start Button

Solid Red: Indicates the device is on and dispensing disinfectant. The room should be unoccupied.
Getting Started with the Sanosil HaloFogger™

8.1 Setup and Filling

THE SANOSIL HALOFOGGER IS DESIGNED FOR USE WITH SANOSIL HALOMIST™ AND SHOULD NOT BE OPERATED WITH ANY OTHER MANUFACTURERS’ DISINFECTING OR CLEANING PRODUCT.

Setup Instructions

Locate the connector end of the power cord. Insert the connector into the power receptacle located at the bottom of the rear panel of the Sanosil HaloFogger. Ensure that the connector is securely in place. Plug the Sanosil HaloFogger into a standard electrical outlet. The green status indicator light will illuminate.

Filling Instructions

1. Push down on the Sanosil HaloFogger Reservoir Door in the area labeled “Push Here to Open.” Lift to open.

2. Locate the disinfectant fluid level indicator lights to the left of the funnel. One orange light will be illuminated indicating the Sanosil HaloFogger is empty.

3. Use personal protection equipment (PPE) including wrap-around style goggles and gloves when pouring disinfectant fluid into the device.

4. Open a gallon (3.8 liters) bottle of Sanosil HaloMist and SLOWLY pour the contents into the funnel area. AVOID SPLASHING.

5. The fluid level indicator lights will illuminate as you pour to show how much disinfectant is in the device.

6. The Sanosil HaloFogger holds two gallons (7.6 liters) of disinfectant when full. Stop pouring when the top green light on the fluid level indicator is illuminated. Do not overfill.

7. Wipe up any spills with a clean paper towel or rag. Thoroughly rinse off gloves and hands.

8. Close Reservoir Door, ensuring it “clicks.”

9. The Sanosil HaloFogger is now ready to be used.
1. General Information

1.1 Sanosil HaloMist™

Sanosil HaloMist has been registered by Sanosil International in accordance with Federal Regulations for the specific uses described in this package insert. Uses other than as specified and described are not permitted and may not be effective in the disinfection of exposed surfaces in pre-cleaned, sealed rooms.

2. Sanosil HaloMist Disinfectant Application Process

Only Sanosil HaloMist should be used in the Sanosil HaloFogger™. Effective application of Sanosil HaloMist requires adequate product concentration and exposure time. The Sanosil HaloFogger is designed to achieve the correct concentration and contact time of Sanosil HaloMist within a defined area.

Read the Sanosil HaloFogger User’s Manual prior to initiating the application process to determine the appropriate steps to take in development and application of the process.

Sanosil HaloMist is applied at a rate of approximately 1.0 oz per minute for a minimum of 10 minutes and maximum of 60 minutes depending upon the room size. Fogging of rooms smaller than 400 ft³ is not recommended with this process.

The Sanosil HaloFogger uses air as a carrier to deliver a dry mist (suspension of small liquid droplets in the air) of Sanosil HaloMist to exposed surfaces inside a sealed room for a selected time based on the size of the room. Read the Sanosil HaloMist SDS prior to fogging. The Sanosil HaloMist disinfectant is continuously fogged for the required dispensing time to maintain the desired concentration of the product mist. The Sanosil Halo Fogger will automatically stop fogging at the selected time. Sanosil HaloMist decomposes into water and oxygen.

The Sanosil HaloMist process can consist of 1, 2 or 3 phases depending upon application:

1. Dehumidification - The Dehumidification phase is required only if the room to be disinfected is above 50% relative humidity. In rooms with higher humidity levels the dispensing of product can be affected by increased condensation levels, which can decrease the efficacy of the product. Room air is first circulated in the sealed treatment room by the dehumidifier to reduce humidity to a predetermined level in the 30-50% relative humidity (RH) range. This permits the target Dry Mist Hydrogen Peroxide (DMHP) concentration to be maintained below condensation levels during the disinfection phase. The time to reach the targeted dehumidification level increases with the volume of the room, and is dependent on environmental conditions.

2. Disinfection – For all disinfecting applications, Sanosil HaloMist is continuously fogged for a selected time to obtain the target DMHP concentration over a pre-established period of time for the volume of the enclosed area. It is recommended the room temperature be in the range of 20°C +/- 2°C (68°F +/- 4°F). Whenever possible, delay room re-entry and allow treated room to remain unoccupied overnight for safety and maximum efficacy.

3. Post Dehumidification - When accelerated room re-entry is necessary, the dehumidifier will speed the reduction of the DMHP concentration within the room to a 1 ppm level prior to reentry into the room by trained applicators. Treated rooms may not be released for general public use until one hour after a 1 ppm level of DMHP is achieved in the room.

3. User Safety Requirements

1. Hazards to Humans and Domestic Animals. CAUTION: Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.

2. Users should remove clothing and PPE immediately if Sanosil HaloMist gets inside. Then wash thoroughly and put on clean clothing.

3. PPE (Personal Protective Equipment) is required for special room re-entry procedures. See Section 5.6.

4. Disinfection Management Plan

4.1 GENERAL

Employees of the site to be disinfected should develop a site specific Disinfection Management Plan (DMP) for each room to be fogged with Sanosil HaloMist. The user is responsible for all tasks of the disinfection process unless noted in the DMP and must be on site for the entire disinfection treatment process. The DMP must address a full characterization of the site, and include appropriate monitoring and notification requirements, consistent with, but not limited to, the following:

1. Inspect the structure and or area to determine its suitability for disinfection (size, non-porous surfaces, pre-cleaned).

2. Seal the room to be treated adequately to ensure that DMHP levels outside the room are kept at acceptable levels and that there is adequate coverage of product within the room. Monitor any occupied adjacent rooms and/or buildings to ensure safety.

3. Prior to each disinfection, review any existing DMP, MSDS, Equipment Manuals and other relevant safety procedures with company officials and appropriate employees.

4. Consult with company officials in the development of procedures and appropriate safety measures for nearby workers who will be in and around the area during application and aeration.

5. Consult with company officials to develop an appropriate monitoring plan that will confirm that nearby workers and bystanders are not exposed to levels above the allowed limits during application. This plan must also demonstrate that nearby residents will not be exposed to concentrations above the allowable limits.

6. Confirm the placement of placards to secure entrance into any area under disinfection.

7. Confirm the required safety equipment is in place and the
necessary manpower is available to complete disinfection.

These factors must be considered in putting a DMP together. It is important to note that some plans will be more comprehensive than others. All plans should reflect the experience and expertise of the applicator and circumstances at and around the structure and/or area. In addition to the plan, the user must read the entire label and equipment manuals and follow all directions carefully. If the user has any questions about the development of a DMP, contact Sanosil International or authorized distributor for further assistance.

4.2. PERSONNEL

1. Training and Certification of Applicators
   Prior to use, applicators must be adequately trained and certified by Sanosil International or its authorized distributor or reseller on the hazards and label directions for Sanosil HaloMist™, on the use and operation of the DMHP application equipment, Sanosil HaloMist monitoring procedures and when appropriate, validation procedures.

2. Confirm in writing that all personnel in and around the area to be fogged have been notified prior to application of the disinfectant. Consider using a checklist that each employee initials indicating that they have been notified.

3. Instruct all disinfection personnel about the hazards that may be encountered; and about the selection of PPE, including detection equipment.

4. Confirm that all personnel are aware of and know how to proceed in case of an emergency situation.

5. Instruct all personnel on how to report any accident or incidents related to disinfectant exposure.

6. Establish a meeting area for all personnel in case of emergency.

7. Confirm that all applicators have been trained in the use of Sanosil HaloMist and are in good standing including the required refresher training.

8. Develop a Worker Health and Safety Plan as required by OSHA for applicators. The owner and operators of the facility being treated should have a Worker Health and Safety Plan as required by OSHA developed for their employees located within close proximity of the application process.

4.3. MONITORING

A. Perimeter Safety
   1. Monitoring of Sanosil HaloMist concentrations must be conducted immediately adjacent to the fogged space to prevent excessive exposure and to determine where exposure may occur. Document where monitoring will occur.

   2. Keep a log or manual of monitoring records for each disinfection site. This log must at a minimum contain the timing, number of readings taken and level of concentrations found in each location.

   3. When monitoring for leaks, document that there is no DMHP present above the 1.0 ppm level. Subsequent leak monitoring is not routinely required. However spot checks must be made, especially if conditions significantly change.

   4. Monitoring must be conducted during aeration and corrective action taken if H2O2 levels exceed the allowed levels in an area where bystanders or nearby residents may be exposed.

   Ensure that the adjacent areas where levels have exceeded 1 ppm are evacuated by general personnel and that proper respiratory protection is utilized by applicators that enter the area. Continue monitoring the area until levels are below 1 ppm DMHP. The treated room and adjacent areas must remain unoccupied until one hour after DMHP levels are at or below 1 ppm.

B. Efficacy
   1. Proper placement of Chemical Indicators (CIs) in all areas of the room to assure consistent delivery.

   2. Document Sanosil HaloFogger run times, temperature, room humidity and CI color change.

4.4. SEALING PROCEDURES

1. Sealing must be adequate to prevent any leaks. Care should be taken to ensure that sealing materials remain intact until the disinfection is complete. Verify effectiveness of the sealing process by conducting a smoke stick test to ensure there are no leaks where openings have been sealed in the room.

   2. If the structure and/or area has been fogged before, review the previous DMP information.

   3. Make sure that construction or remodeling has not changed the building in a manner that will affect the disinfection process.

   4. Warning placards must be placed on every possible entrance to the disinfection site.

4.5. APPLICATION PROCEDURES AND DISINFECTION PERIOD

1. Plan carefully and apply disinfectant in accordance with the label requirements.

   2. When entering into the area under disinfection always work with two or more people under the direct supervision of a trained applicator wearing appropriate PPE.

   3. Provide watchmen when a disinfection site cannot otherwise be made secure from entry by unauthorized persons.

   4. Follow Sanosil HaloFogger Use Instructions (See Section 5.)

4.6. POST-APPLICATION OPERATIONS

1. Provide watchmen when you cannot secure the disinfection site from entry by unauthorized persons during the aeration process.

   2. Ventilate and aerate in accordance with structural limitations.

   3. Turn on ventilating or aerating fans where appropriate.

   4. Use a suitable DMHP detector before reentry to determine disinfectant concentration. (example: Drager PAC III or ATS Porta Sens II)

   5. Keep written records of monitoring to document completion of aeration.

   6. Remove warning placards when aeration is complete.

   7. Inform business clients that employees or other persons may
return to work or otherwise be allowed to re-enter the aerated structure.

**4.7. CRITERIA FOR SUCCESSFUL DISINFECTION**

1. All Cls that are properly recovered and evaluated exhibit a visible color change following exposure to DMHP.

5. **Sanosil HaloFogger™ Use Instructions**

5.1 **Room Preparation**

CAUTION – Before proceeding, ensure that personnel who operate the Sanosil Halo Fogger have received appropriate training, including:

- Review Sanosil HaloFogger User Manual and Sanosil HaloMist™ Labeling
- Review Sanosil HaloMist Safety Data Sheet

1. Remove porous curtains, fabric and associated porous items from room, including: bed linens, waste products and visible dirt.

2. Cleaning: Remove gross filth and visible soil. Wash soiled surfaces with a generic cleaning agent (i.e. soap and water, a multi-purpose cleaner, etc.) using a cloth, sponge, wipe or appropriate cleaning device to ensure visible soils are removed. All the surfaces within the treatment area must be completely dry to the touch prior to initiating DMHP application.

IMPORTANT – The Sanosil HaloFogger does not replace the requirement for manual room cleaning. You must follow facility’s cleaning procedure before using the Sanosil HaloFogger.

5.2. **Room Set Up**

1. It is recommended that all ventilation systems, including HVAC, be turned off for the duration of the fogging process.

2. Seal the room to be treated to ensure that DMHP levels outside the room are kept at acceptable levels and that there is adequate coverage of product within the room. Seal any supply or return vents and duct work to prevent of distribution of Sanosil HaloMist through the ductwork. Cover any smoke detectors. Sealing techniques can vary, but most often includes polyethylene sheeting and adhesive tape. Verify effectiveness of the sealing process by conducting an air draft potential analysis using a smoke stick test to ensure there are no leaks where openings have been sealed in the room.

3. Open internal doors, cupboards, and drawers of room furniture unless specifically directed to leave them closed (as in the operating room).

4. Remove mattresses from beds and tilt them on their sides.

5. Monitor areas immediately adjacent to the fogged space to ensure levels are below TWA for DMHP.

6. If possible, modify ambient conditions in the room to meet the following recommended parameters: Temperature: 20°C +/- 2°C (68°F +/- 4°F); Relative Humidity: between 30% - 50%.

7. Assure all personnel have vacated the treatment room prior to DMHP application. Remove all plants, animals, beverages and food.

8. Close all windows and seal door(s) from outside of room being treated.

9. Applicators must not re-enter the treated room until exposure levels of DMHP are at or below one ppm. Do not release the treated room to the general public until 1 hour after a level of one ppm DMHP is achieved in the room.

10. Placarding of Treatment Room: The applicator must placard or post all entrances to the designated buffer zones with signs in English bearing:

1. The signal word “CAUTION/PRECAUCION” in red.

2. “Area under treatment, DO NOT ENTER/NO ENTRAR.”

3. The statement “This sign may only be removed after the treatment of enclosed area, one hour after DMHP levels are less than or equal to one ppm”.

4. Identification of Sanosil HaloMist disinfectant as hazard associated with the treatment process

5. Contact information for the applicator.

All entrances to the treatment room must be placarded. Placards must be placed in advance of the treatment in order to keep unauthorized persons from entering the treated room. Placards can be removed one hour after the treatment room contains concentrations of DMHP are at or below 1 ppm.
5.3 Treatment Procedure Protocol

1. Position the Sanosil HaloFogger™ in a corner of the room approximately one foot away from the wall, pointing the nozzle towards the center of the room. Choose a corner farthest away from vents, ductwork and door. IMPORTANT - Dispensing airflow path from the Sanosil HaloFogger must remain unobstructed during entire treatment procedure.

2. Measure the length, width and height of the room. Round up to the nearest cubic foot or cubic meter. These measurements will determine the final room size and recommended run-time of the Sanosil Halo Fogger.

3. Plug the Sanosil HaloFogger into a standard, grounded electrical wall outlet. When the power connection has been made, the green status indicator light on top of the device will illuminate.

4. Using the chart below (also found on the rear of the device) determine the Foggling Time based on the room size (ft³ or m³) from Step 2 above.

5. Turn the timer dial on the top of the Sanosil HaloFogger to the number of minutes specified for your room size. Do not set the timer for longer than the suggested time. Excessive fogging can cause condensation, which may reduce effectiveness and may activate fire alarm systems.

6. Check the fluid level indicator lights to see level of Sanosil HaloMist™ in the Sanosil HaloFogger. It is recommended that the unit reservoir be topped off before proceeding with the treatment process. Refer to the Setup and Filling, Section 8.1.

7. Press and hold the Sanosil HaloFogger Start button for 2 seconds. The green status indicator light will begin to flash red, indicating that you have 30 seconds to leave the room before the Sanosil Halo Fogger device begins to operate.

8. Close the door to the room after you have exited. Post a sign on the door indicating that the room should not be entered during treatment process. Note time treatment process was started on room sign.

9. After 30 seconds, the status indicator light will turn solid red and the Sanosil HaloFogger will begin to dispense Sanosil HaloMist into the room. It is likely that you will hear the Sanosil Halo Fogger running through the door.

10. When the Sanosil HaloFogger has finished dispensing the room will be full of atomized Sanosil HaloMist disinfectant. The status indicator will remain illuminated red. DO NOT ENTER ROOM at this time.

11. The treated room must remain unoccupied until the minimum room re-entry wait time has expired and hydrogen peroxide concentration level (ppm) has been checked. 110 minutes is the minimum wait time for re-entry; length of wait time increases with room size. (See chart, step 4 above.) Whenever possible, delay re-entry and allow treated room to remain unoccupied overnight for safety and maximum efficacy. Hydrogen peroxide concentration levels must be at or below one ppm for safe room re-entry. Once safe levels are determined to be at or below one ppm, it is recommended that all doors and HVAC vents be opened and HVAC system be restarted to allow increased ventilation and airflow circulation in the room. Uncover smoke detectors.

Upon expiration of room re-entry wait time, to assure occupational health levels are not exceeded, using a handheld hydrogen peroxide detector (example: Drager PAC III or ATS PortaSens II), verify safe hydrogen peroxide concentration level is at or below one ppm. If level is not at or below one ppm, wait an additional 10-minutes and re-check. Continue to check until safe health exposure level is at or below one ppm. Treated room can be re-occupied one hour after hydrogen peroxide concentration level is determined to be at or below 1 ppm.

12. When treatment is complete, unplug the Sanosil HaloFogger from the power source.

13. Store Sanosil HaloFogger upright, in a safe, dry location. It is not necessary to drain Sanosil HaloFogger of disinfectant.

Disinfecting for High Humidity Environments and Applications Requiring Accelerated Room Re-Entry – Special Instructions

A. Prepare the room as outlined in Sections 5.1, Room Preparation and 5.2 Room Set Up - then,

1. Room humidity level of 30% – 50% or less is recommended before starting the treatment process. Some rooms may have a higher humidity level which can extend the room re-entry time. Position the dehumidifier next to Sanosil HaloFogger. Verify that the dehumidifier’s reservoir is empty or empty reservoir prior to use.

2. Plug dehumidifier into the correct location on the Sanosil Power Module, and then plug the power module into a standard, grounded electrical wall outlet.

3. Turn on dehumidifier; set fan to highest speed setting. Check humidity level with humidity sensor; if humidity level is above 50%, let dehumidifier run until the humidity level is reduced to recommended level.

4. Plug the Sanosil HaloFogger into the correct location on the Sanosil Power Module. When the power connection has been made, the green status indicator light on top of the device will illuminate.

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<table>
<thead>
<tr>
<th>ft³</th>
<th>Room Size</th>
<th>m³</th>
<th>Time</th>
<th>Minimum Wait Time before checking H₂O₂ level</th>
<th>Room Re-Entry by Applicators +60 Minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100-1800</td>
<td>11 - 50</td>
<td>10 minutes</td>
<td>110 minutes</td>
<td>Treated room can be reoccupied one hour after hydrogen peroxide concentration level is determined to be at or below one ppm and ventilation has been completed.</td>
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</tr>
</tbody>
</table>
5. Continue following steps section 5.3 – Treatment Procedure Protocol.

6. The Power Module will automatically turn off the dehumidifier when the HaloFogger begins dispensing aerosolized disinfectant, and then automatically turn it back on when fogging is complete.

5.4. Special Room Re-Entry Instructions

WARNING – During the treatment process, SanoSil HaloMist™ (liquid aerosol) is dispensed. Personal protection equipment including the use of an appropriate air respirator is required for hydrogen peroxide concentration levels exceeding safe re-entry levels (ppm).

5.4.1 Early Room Re-Entry
In case of an emergency and/or unknown levels of Hydrogen peroxide mist that may exceed applicable exposure limits within the treated room requires as a Self Contained Breathing Apparatus (SCBA) or an airline respirator. When entering into an area with the SanoSil HaloFogger™ running, always work with two or more people under the direct supervision of a trained applicator wearing appropriate PPE.

5.4.2 Re-Entry to Sealed Room
Re-entry to a sealed room by a trained applicator is allowed under the following circumstances:

**NOTE:** Proper personal protective equipment (PPE), including wrap-around style goggles, should always be worn to re-enter room before treatment process is completed.

- *Only enter the room to perform a planned task, e.g. to retrieve equipment, open windows or turn on external vents, and then exit room in the shortest time possible.*

- *Always wear wrap around style goggles to protect against irritation of eyes.*

- *If available, determine Hydrogen Peroxide levels prior to room entry using a handheld hydrogen peroxide detector (example: Drager PAC III or ATI PortaSens II).*

- Hydrogen Peroxide levels between 1 and 10 ppm requires at least a half-face respirator and appropriate eye protection with either 3M 6003 or 6006 (organic vapor/acid gas or multi-gas) cartridge in combination with particulate filter (i.e. 5N11 or 5P11).*

- Using a properly fit-tested, full-face respirator with either cartridge mentioned above gives an Assigned Protection factor of 50 for use up to 50ppm of Hydrogen Peroxide.* (*3M Technical Bulletin #185 and Solvay Chemicals Technical Communication TDS No. HOOH-PAA-RESP*)

Otherwise, do not re-enter the treated room until exposure levels are at or below one ppm.

5.5. Releasing Treated Sealed Room for Return to Service

1. The treated room can be released for general public use one hour after DMHP levels are determined to be at or below one ppm.

2. Once DMHP levels are determined to be at or below one ppm, applicators may re-enter the treated room and remove any sealing materials including any covered fire alarms and disconnect or remove the SanoSil Halo Fogger from the treated sealed room.

3. Turn on ventilation systems including HVAC.

4. Remove placards and release the treated room for normal operation and use one hour after the levels of DMHP are determined to be at or below one ppm.
Maintenance

9.1 Nozzle Cleaning and Alignment

To keep your HaloFogger™ working at optimum performance, it is recommended that you clean the nozzle on a regular basis (example: clean nozzle once-a-week if fogger is used once-a-day or more.)

Step 1. Before performing any maintenance to the HaloFogger, disconnect the power cord from the electrical outlet.

Step 2. **Remove Nozzle.** Using adjustable pliers, gently squeeze nozzle (DO NOT crush) then carefully turn nozzle counter-clockwise 90° and remove.

Step 3. **Separate Parts.** Remove Main Bolt from Nozzle Insert. Soak both parts in soap and water. Rinse parts thoroughly with water.

Step 4. **Reassemble Nozzle.** Carefully insert the Main Bolt back into the Nozzle Insert. Make sure the "wings" on the Main Bolt nest into the slots down inside the Nozzle Insert.

**IMPORTANT** - Position Main Bolt so a uniform gap surrounds the nozzle tip.

Step 5. Carefully **reinstall the nozzle into the Halo,** turning nozzle clockwise 90° to lock into place. Test Halo for straightness of nozzle stream.

9.2 Funnel Cleaning

The fluid funnel inside the Sanosil HaloFogger should be checked for debris on a regular basis. Visually inspect the funnel. If any debris is present, wipe with a clean towel dampened with water.

Ensure that the funnel screen is in place.
Troubleshooting

The following table of potential indicators provides a quick reference of the descriptions, probable causes and most common solutions regarding the operation of the Sanosil HaloFogger™. If the information in this table does not describe or solve the problem you are having, contact Sanosil Customer Service at 1 877 726 6745, Monday through Friday, 9:00AM to 5:00PM EST. For International calls dial +1 302 454 8102.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>No mist is being produced</td>
<td>The nozzle is clogged or misaligned.</td>
<td>Remove the nozzle and clean according to the instructions in this manual.</td>
</tr>
<tr>
<td></td>
<td>The disinfectant fluid tank is empty.</td>
<td>Check the fluid level indicator lights. If the orange light is illuminated, follow the fill instructions in this manual to refill the tank.</td>
</tr>
<tr>
<td></td>
<td>Start button not pressed.</td>
<td>Press and hold the Start button for 2 seconds to begin fogging.</td>
</tr>
<tr>
<td></td>
<td>Not plugged in.</td>
<td>Check to make sure that the power cord is plugged into both the Halo Fogger and a wall outlet. Then, check to see that the wall outlet is working. The green status indicator light should be illuminated when properly set up.</td>
</tr>
<tr>
<td>Green indicator light is blinking</td>
<td>Reservoir Door is not closed correctly.</td>
<td>Close Reservoir Door making sure it “clicks” when closed.</td>
</tr>
<tr>
<td></td>
<td>Magnet in Reservoir Door is not in place.</td>
<td>Call Sanosil Customer Service.</td>
</tr>
<tr>
<td>No power</td>
<td>The power cord is not plugged in or the power source is not on.</td>
<td>Check to make sure that the power cord is plugged into both the fogger and the wall outlet. Then, check to see that the outlet is working. The green status indicator light should be illuminated when properly set up.</td>
</tr>
<tr>
<td>Knocking noise</td>
<td>The compressor is not running properly.</td>
<td>Call Sanosil Customer Service.</td>
</tr>
<tr>
<td>Disinfecting procedure is interrupted</td>
<td>Power loss during treatment process or other unforeseen circumstances.</td>
<td>Confirm power has been restored. Re-enter room after hydrogen peroxide concentration level is determined to be at or below 1 ppm. Restart treatment process from beginning.</td>
</tr>
</tbody>
</table>

Replacement Parts

To order replacement parts, contact Sanosil Customer Service at 1 877 726 6745, Monday through Friday, 9:00AM to 5:00PM EST. For International calls dial +1 302 454 8102.

<table>
<thead>
<tr>
<th>Part</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>110V Power Cord (8’)</td>
<td>0750-110VPC</td>
</tr>
<tr>
<td>220V Power Cord (8’)</td>
<td>0750-220VPC</td>
</tr>
<tr>
<td>Nozzle Assembly (includes retainer cap, nozzle insert, main bolt and O-ring))</td>
<td>0750-000</td>
</tr>
</tbody>
</table>

Re-Order Number

<table>
<thead>
<tr>
<th>Part</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>110V HaloFogger (US and Canada)</td>
<td>0750-110</td>
</tr>
<tr>
<td>220V HaloFogger</td>
<td>0750-220</td>
</tr>
<tr>
<td>Sanosil HaloMist™ 1-Case (x41-Gallon Bottles)</td>
<td>HM10N0G4</td>
</tr>
<tr>
<td>Sanosil HaloSpray™ 1-Case (x41-Gallon Bottles)</td>
<td>HS10N0G4</td>
</tr>
<tr>
<td>Power Module</td>
<td>20PMOD12-110</td>
</tr>
<tr>
<td>HaloShield™ Vent Covers (2-pak bundle only)</td>
<td>0800-SHVC</td>
</tr>
<tr>
<td>Cl – H202 Test Strips</td>
<td>H202STPS-50</td>
</tr>
</tbody>
</table>
**Storage and Disposal**

*Sanosil HaloFogger™*

Storage: Store in a safe, dry location. Do not place anything on top of the device. Store in an upright position. Keep the refill door closed.

Do not allow Sanosil HaloMist™ to be stored in the Sanosil HaloFogger for longer than one year.

Disposal: Electrical and electronic devices may not be disposed of with domestic waste. This product is in accordance with the law “waste electrical and electronic equipment” (WEEE).

Please contact your local representative for more information.

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**Specifications for HaloFogger**

**Mechanical**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>40.0” (101.5 cm)</td>
</tr>
<tr>
<td>Width</td>
<td>13.25” (33.5 cm)</td>
</tr>
<tr>
<td>Depth</td>
<td>18.5” (47 cm)</td>
</tr>
<tr>
<td>Weight</td>
<td>Approximately 50 lbs (22.5 kg)</td>
</tr>
</tbody>
</table>

**Electrical**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Requirements</td>
<td>North American Version: 110V</td>
</tr>
<tr>
<td></td>
<td>International Version: 220V</td>
</tr>
<tr>
<td>Certification</td>
<td>MET UL 969, MET CE</td>
</tr>
<tr>
<td>Current Rating</td>
<td>4 amps</td>
</tr>
<tr>
<td>Fuse</td>
<td>10 amps, 250 volt, slow acting, 5 x 20mm</td>
</tr>
<tr>
<td>Electrical Rating</td>
<td>4 amps, 115 volt, 60 Hz (220 volt, 50 Hz for the 220V Fogger)</td>
</tr>
</tbody>
</table>

**Performance**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nozzle Flow</td>
<td>1.0 oz / min +/- 20%</td>
</tr>
<tr>
<td>Volumes treated</td>
<td>400 – 3,660 ft³</td>
</tr>
</tbody>
</table>

**Draining the HaloFogger**

Before shipping the unit, you **must** empty the Halo Fogger’s reservoir of Sanosil HaloMist to avoid damage to the unit. Please follow the instructions below when emptying the unit. It is recommended that you wear proper PPE when draining disinfectant.

NOTE: It is recommended that the fogger be plugged in so the fluid level indicator lights illuminate and show level drop as disinfectant is removed from the reservoir.

1. Open reservoir door on HaloFogger. Remove funnel screen by gently pressing on edge to dislodge from funnel spout. Be careful not to not push screen into reservoir tank. (Figure 1.)

![Figure 1](image1.png)

2. Use hand siphon to remove fluid from reservoir to a bucket with 2 gallon capacity. Fluid level indicator lights will go off one-at-a-time as fluid level drops within the reservoir. Reservoir is satisfactorily drained when last fluid LED flashes red. (Figure 2.)

![Figure 2](image2.png)

3. Replace funnel screen by pressing it gently back into position in spout opening. Be careful not to not push screen into reservoir tank.
Registration and Warranty

It is important to register your Sanosil HaloFogger™. This will ensure that you receive prompt and efficient service if your device requires attention during the warranty period. Registration will also entitle you to any product updates as they become available.

Two Ways to Register Your HaloFogger:

1.) Online: go to www.sanosilinternational.com, click on “Register HaloFogger™”

2.) Send an email to “sales@sanosilinternational.com.” Put “HaloFogger Registration” in the subject line and include the following information: your name, your company name, your contact info (phone and email), your address, purchase date, who you purchased your HaloFogger from, and the unit’s serial number.

Sanosil International will repair or replace your product or part free of charge if the product or part has a manufacturing defect that is covered by the warranty below. Sanosil International is not responsible for shipping costs associated with warranty returns.

IMPORTANT: Before returning anything, please contact Sanosil International by phone or email. Most issues can be resolved easily without a device or part return.

Phone: 302.454.8102 Extension 100
Email: info@sanosilglobal.com

IF Sanosil International determines that your issue qualifies for warranty coverage, you will be issued a Return Merchandise Authorization (RMA) number.

PREPARE the return shipment to Sanosil International and include the fogger and all parts, the RMA number, and an explanation of the issue you are experiencing.

SHIP TO: Sanosil International
    Warranty Return RMA# _____________
    91 Lukens Drive
    New Castle, DE  19720

Returns that don’t qualify for warranty coverage will be repaired or replaced at the customer’s expense or device will be returned to the customer. It is critical that you communicate with Sanosil International prior to returning your HaloFogger.

Warranty

Sanosil International, LLC warrants the HaloFogger, when purchased new, to be free of defects in material and workmanship and to perform in accordance with manufacturer’s specifications for a period of one (1) year from the date of purchase from a Sanosil International authorized distributor. Sanosil International will either repair or replace any device or component found to be defective or at variance from manufacturer’s specifications within this time. Sanosil International and its authorized distributors are not responsible for shipping costs associated with warranty returns. Damage resulting from use, misuse, modification, neglect, accidents, normal wear and tear or shipping is not covered by this or any warranty.

Sanosil International and its authorized distributors assume no liability for any accident, injury, death, loss or other claim related to or resulting from the use of this device. In no event shall Sanosil International or its authorized distributors be liable for incidental or consequential damages relating to or resulting from the use of this device or any of its parts.

This warranty is void if the HaloFogger is not used in accordance with Sanosil International’s recommendations, if repaired by an agent other than Sanosil International, or if the HaloFogger has been used with any solution other than Sanosil disinfectant. This warranty is available to the original purchasers only and may not be transferred or assigned.

Record Serial Number and date of purchase here for future reference.

Sanosil

Located on lower rear of the device.
CAUTION/PRECAUCION

DO NOT ENTER/ENTERINO
Room Fogging in Progress

Treatment Date / Start Time:

Estimated Room Re-entry Time*:

(*See chart page 7 of Halo Fogger LS User Manual to determine room re-entry time.)

Sanosil®
INTERNATIONAL

www.sanosilinternational.com
Learn how to reduce infection rates at your facility by visiting www.sanosilinternational.com. There you can find out more about the Halo Disinfection System™, download literature and case studies, and find a distributor near you.

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