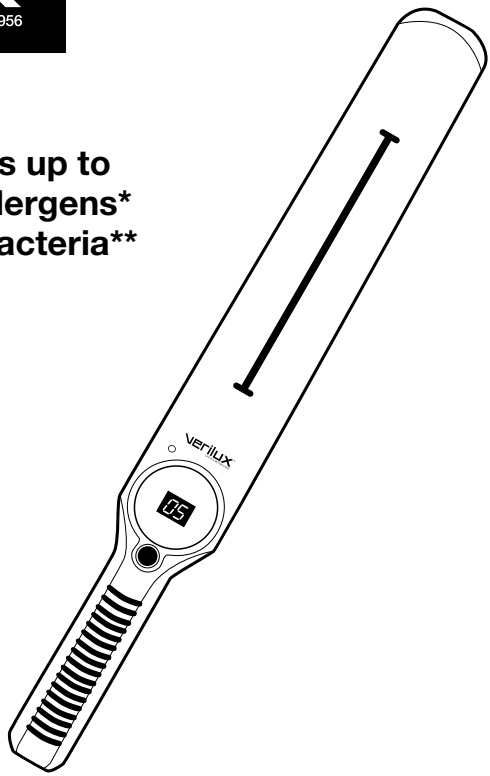
verilux®
The Healthy Lighting Company® Est. 1956

The CleanWave® Sanitizing Wand kills up to 99.9%† of germs, allergens* and odor causing bacteria**



CleanWave® Sanitizing Wand

†Kills up to 99.9% of germs, viruses and other micro-organisms on solid, non-porous surfaces. Sanitizing times and effectiveness for porous surfaces may vary.

**Direct UV-C Light exposure is effective on certain allergen producing organisms such as Mold A and in reducing dust mites.*

***Deodorization based on UV-C reduction of odor-causing bacteria.*

Model: VH01

The Healthy Lighting Company® Est. 1956

Dear Customer,

Thank you for purchasing the Verilux CleanWave® Portable Sanitizing Wand. You have received an innovative and quality manufactured product, backed by a one-year limited warranty.

Many other healthy lighting products are available through our catalog and online. Visit us on the web at www.verilux.com to request a free catalog and learn more about all our quality Verilux products, or call us toll-free at 1-800-454-4408.

As a Verilux customer, your satisfaction means everything to us. We look forward to serving you now and in the future.

Have a bright day!

Nicholas Harmon

Nicholas Harmon
President, Verilux, Inc.

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READ ALL INSTRUCTIONS BEFORE USING

Important Safeguards

⚠ DANGER:

- To prevent fire or shock hazard, do not expose this product to rain or excessive moisture.
- Always direct the UV-C light AWAY from the eyes and skin. Direct prolonged exposure of eyes or skin to the UV-C light bulb can cause serious skin burn and eye inflammation from short wave ultraviolet radiation. Radiation from these lamps is harmful to the eyes and skin.
- Application of UV-C light to existing mold growth can cause respiratory irritation and allergic symptoms. Do not use UV-C light where active mold growth exists. Remove active mold growth from surface prior to exposure. Ultraviolet (UV-C) Radiation Hazard.

⚠ WARNING:

- This this product should not be handled or used by children to prevent accidental exposure to UV-C rays.
- Never use this product on pets or people.
- The bulb in this product contains a trace amount of mercury, a chemical known to the state of California to cause birth defects or other reproductive harm. This substance may also cause injury if inhaled or ingested.
- Dispose of bulbs per lcoal regulations. For more information on clean-up and disposal, see *www.lamprecycle.org*.
- Leakage of battery may cause damage to the wand. If the battery is found to be leaking do not use the product. Avoid direct skin or eye contact with the material leaking from the battery. Dispose of batteries per local regulations

⚠ CAUTION:

- Do not leave product unattended while on.
- No serviceable parts. Refer all servicing to qualified service personnel. Servicing is required when the product is damaged in any way, for example, the product has been exposed to liquid or moisture and does not operate normally, or has been dropped and does not operate normally.
- Care should be taken to prevent bulb breakage.
- The product should not be exposed to dripping or splashing. No objects filled with liquids, such as vases, should be placed on or near the product.
- Not intended for use on food.
- With prolonged or overexposure, UV-C light may degrade, discolor and/or bleach fabrics, plastic and rubber. Do not hold product static over any surface for more than 1 minute.
- Remove batteries when not in use.

⚠CAUTION: — continued

- Changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the product.
- Only the wand adapter provided with the device should be used.

FCC INFORMATION

The Sanitizing Wand complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with Part 18 of the FCC Rules. This product may cause interference to radio communications and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45 - 30 MHz.

⚠CAUTION: Changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the product.

⚠DANGER

Always direct the UV-C light AWAY from the eyes and skin. Direct prolonged exposure of eyes or skin to the UV-C light bulb can cause serious skin burn and eye inflammation from short wave ultraviolet radiation. Radiation from these lamps is harmful to the eyes and skin.

⚠WARNING POTENTIAL MOLD SPORE RELEASE

Application of UV-C light to existing mold growth can cause respiratory irritation and allergic symptoms. Do not use UV-C light where active mold growth exists. Remove active mold growth from surfaces prior to exposure.

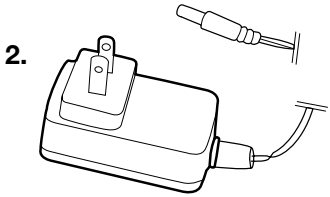
SAVE THESE INSTRUCTIONS

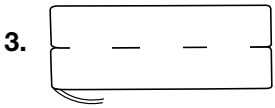
What's Included

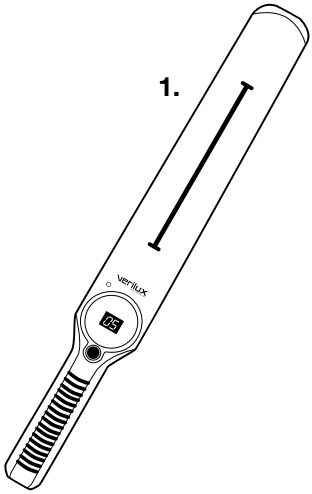
1. Sanitizing Wand

2. Sanitizing Wand Adapter

3. Sanitizing Wand Battery Pack







Introduction

Your new Verilux® CleanWave® Sanitizing Wand kills up to 99.9%† of germs, allergens and odor causing bacteria on hard surfaces.†

We hope you enjoy this product and use it frequently. **Your results will be cumulative – your "kill rate" may be 90% during your first use on a surface, then "90% of the remaining 10%" on your next use.**

About Light and UV-C Light

Visible light is electromagnetic wavelengths visible to the human eye. The wavelength of visible light, in nanometers, is about 400nm to 750nm. A nanometer is one billionth of a standard metric meter.

Ultraviolet or UV light is the part of the electromagnetic spectrum – from about 10nm to 400nm – that contains frequencies just higher than visible light.

Ultraviolet light was discovered by German physicist Johann Ritter. In 1801, Ritter was experimenting with silver chloride, a chemical known to break down when exposed to sunlight. He found that light at the blue end of the spectrum increased the reaction.

Experimenting further, he discovered that the reaction was even more efficient when exposed to light beyond blue – light that was invisible. He called this new type of light ultraviolet, meaning "beyond the violet" (ultra comes from the Latin for "beyond").

UV light is invisible to humans, but birds and some species of insects, snakes, turtles and fish can see ultraviolet light.

UV light can be divided into various wavelength bands with differing characteristics.

The Sun emits ultraviolet radiation in UV-A, UV-B and UV-C bands, but because of absorption in the ozone layer, 99% of the ultraviolet radiation that reaches Earth is "long wave" UV-A.

UV-A, also known as "black light," creates fluorescent effects at your local disco and "midnight bowling" sessions as UV light (which cannot be seen) is absorbed by materials and re-emitted in the visible range.

UV-B "medium wave" rays both help and hurt. Too much UV-B exposure causes sunburn and can damage human tissue. Too little UV-B exposure leads to a lack of Vitamin D absorption in animals.

The higher energy "short wave" UV-C band rays (100 to 280 nanometers) are lethal to micro–organisms. This range is known as the Germicidal Spectrum.

UV-C light sanitizes micro-organisms and biological pollutants, including

†Kills up to 99.9% of germs, viruses and other micro-organisms on solid, non-porous surfaces. Sanitizing times and effectiveness for porous surfaces may vary.

viruses, bacteria, germs, mold, dust mite and flea eggs by penetrating their cell membranes and attacking and deactivating their cellular DNA, stopping their reproductive capabilities and killing them.

The scientific community has long known that UV-C light acts as a natural sanitization system. Hospitals, food processing facilities, scientific laboratories, water treatment plants and air handling systems use UV-C light to eliminate contaminants and germs.

The Verilux® CleanWave® Sanitizing Wand provides that same UV-C ultraviolet technology for use in your home and on the road.

Benefits of Using UV-C Light

- Kills up to 99.9%† of germs and allergens* on hard surfaces at home or while traveling
- Destroys odor causing bacteria in pet and nursery areas
- Sanitizes without chemicals, irritants or residues§
- Laboratory proven to eliminate up to 99% of MRSA and H1N1 in just 1 second!‡

†Kills up to 99.9% of germs, viruses and other micro-organisms on solid, non-porous surfaces. Sanitizing times and effectiveness for porous surfaces may vary.

‡Based on exposure of UV-C light to test organisms in laboratory on non-porous hard surface, under controlled conditions. MRSA refers to Methicillin Resistant Staphylococcus Aureus (ATCC 33592). H1N1 refers to A/Swine/Iowa Swine Influenza A (ATCC 333).

**Direct UV-C Light exposure is effective on certain allergen producing organisms such as Mold A and in reducing dust mites.*

§When used as directed.

Sanitizing Wand Features

Your new Verilux® CleanWave® Sanitizing Wand kills up to 99.9%† of germs, allergens* and odor causing bacteria**. Use it to sanitize surfaces throughout your home without chemicals, irritants§ or residues. Laboratory proven to eliminate up to 99% of MRSA and H1N1 in just 1 second‡ the CleanWave is ideal for countertops, computer keyboards, cell phones, pillows, crib and mattress covers, upholstery, pet beds, area rugs, surfaces in the baby's room and more.

This Wand features:

- A powerful Ultraviolet (UV-C) illumination system that:
  - Kills up to 99.9%† of germs and allergens* on hard surfaces at home or while traveling
  - Destroys odor causing bacteria in pet and nursery areas
  - Sanitizes without chemicals, irritants or residues§
- This unit deodorizes and helps remove allergens*
- Safety shut-off feature
- Built-in timer for precise exposure times
- Protective carrying case, battery pack and AC adapter/battery charger
- Easy to read digital display
- Low battery warning light
- Rechargeable batteries
- Status Indicator to inform the user when the Wand is charging and when it is on

†Kills up to 99.9% of germs, viruses and other micro-organisms on solid, non-porous surfaces. Sanitizing times and effectiveness for porous surfaces may vary.

‡Based on exposure of UV-C light to test organisms in laboratory on non-porous hard surface, under controlled conditions. MRSA refers to Methicillin Resistant Staphylococcus Aureus (ATCC 33592). H1N1 refers to A/Swine/Iowa Swine Influenza A (ATCC 333)

**Direct UV-C Light exposure is effective on certain allergen producing organisms such as Mold A and in reducing dust mites.*

§ When used as directed.

Safety Feature

An internal safety switch will automatically turn the unit off if the light source is turned upward in order to help protect eyes and skin from exposure.

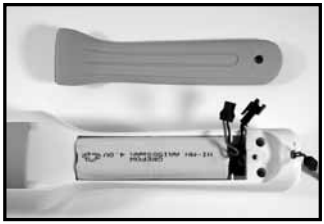
NOTE: *The safety mechanism includes a switch that will make a slight rattling sound — this is a normal function.*

Sanitizing Wand Initial Set-up

The battery pack is shipped separately from the Sanitizing Wand. Before using the Sanitizing Wand, install the battery pack and fully charge the Wand.

Installing the Battery

NOTE: Be sure the charger is unplugged before installing a new battery pack.



1. Remove the gray handle faceplate on the underside of the Wand using a screwdriver.

2. Attach the battery cable to the battery pack.

3. Place the battery pack in the battery compartment.

4. Replace the faceplate. Tighten the screws.

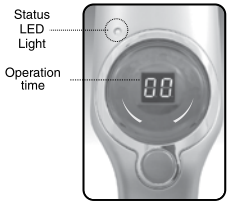
NOTE: Used batteries should be disposed of properly and never incinerated.

NOTE: The Sanitizing Wand contains a rechargeable 4.8V Nickel Metal Hydride (NiMH) battery pack made only by Verilux. Do not attempt to replace with other brands. To order a new battery, call Verilux customer service at 1-800-786-6850.

Sanitizing Wand Initial Set-up — continued

Charging the Wand

It takes approximately 14 hours to fully charge the battery for the first time.



- Connect the power adapter to the Wand.
- Plug the power adapter into a 110V grounded electrical outlet.
- The status LED light is RED when the Wand is charging.
- The status LED light is GREEN when the Wand is fully charged or in use.
- After the first full charge, typical charging time is 8 hours under normal use. The Wand can be used for up to 1 hour when fully charged.

⚠CAUTION: Only the wand adapter provided with the device should be used.

Low Battery Indication

When the battery is low and requires charging, the Wand will beep 10 times and the red LED will flash 10 times.

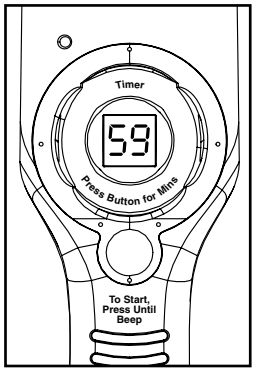
LED Indicator Status

- **Flashing Red** – the Wand needs to be recharged.
- **Red** – the Wand is charging.
- **Green** – the Wand is fully charged or the Wand is on.

Sanitizing Wand Operation

Timer

During operation, a count-up timer shows total sanitizing time. The display increments each second to 59, then briefly displays the minutes elapsed before starting another 59-second count-up. The next minute reached is then shown briefly and the count-up begins again.



This cycle repeats for 99 minutes or until the Wand requires charging.

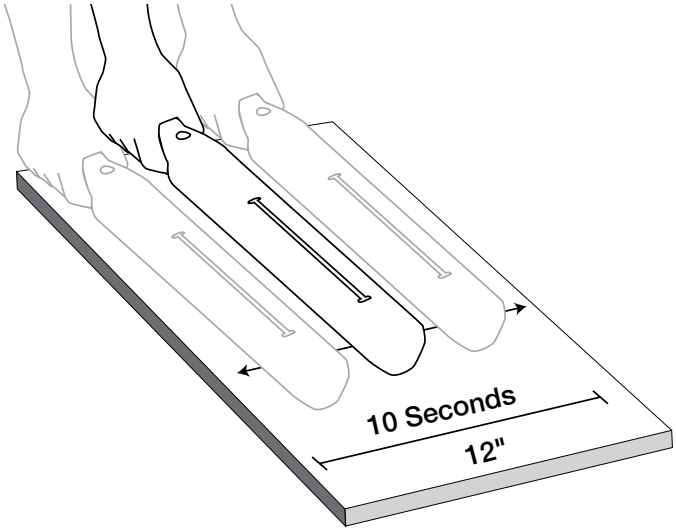
To see the current minute of sanitizing time, quickly press and release the blue button.

Sanitizing Wand Operation — continued

For example, if you've been using the Wand for 3 minutes and 20 seconds, the Wand will show "20." Press the button and the display will briefly show "03" before continuing the by-the-second count-up to minute "04."

Step by step:

1. To turn the Wand on, press the blue button until the Wand beeps – about two seconds.
2. Lift your finger off the button. The Wand will turn on. The fluorescent bulb may take another second or two to light.
3. The display window will show the count-up timer.
4. Begin sanitizing by holding the Wand **as close as possible** and no more than one-half inch above the surface and moving Wand slowly side to side in a 12" (1 foot) area. The energy required to kill micro-organisms is a product of the light's intensity and exposure time. The closer the Wand is to an object, the more intense the energy* (see illustration below).



**Calculation based on eliminating 99.9% of Influenza A on standardized solid items and surfaces.*

Sanitizing Wand Operation — continued

5. Move the Wand to next 12" (1 foot) area and continue sanitizing.

6. Repeat until you have completely sanitized your desired surface area.

7. When you have finished, press the blue button for three seconds. The Wand will turn off.

NOTE: Be sure the Wand is facing downward, directly over your desired sanitizing area. A safety switch will automatically turn off the UV-C light if the Wand is tilted upward from the horizontal position (the counter will not stop during this temporary bulb safety shut-off).

When the battery charge is low, the Wand will begin to beep and the red indicator light will flash, indicating that the battery needs to be charged.

Using the Wand in Charging Mode

The Wand can be used in charging mode simply by connecting the power adapter to the Wand and following the Operation Instructions.

Sanitizing Wand Bulb Replacement

Even with regular use, it is unlikely that you'll ever need to replace the long-life Verilux® bulb. If you do need to replace a bulb, use only Verilux bulbs. Use of a non-Verilux bulb can result in damage to the Wand or the bulb.

To order a replacement bulb, use the Component Re-order form included with this product. Or call Verilux Customer Service at 1-800-786-6850 or visit www.verilux.com.

Sanitizing Wand Troubleshooting

The Wand Will Not Turn On

1. Try turning on the Wand while it is connected to the AC adapter and plugged in. If it works, the battery may not be charged or connected properly.
2. Open battery compartment, disconnect battery clips for two seconds. Re-connect clips; re-insert battery and cover. Try again.

No Blue Light Underneath

- Bulb may be loose from shipping.
- Bulb may be broken or otherwise need replacing.
- Be sure the Wand is facing downward directly over the surface being sanitized. If the Wand is not operated in this manner, the internal safety switch will prevent the Wand from operating. This feature is to help prevent direct exposure to UV-C Light. Use caution when operating the Wand and do not attempt to override this product feature.

⚠CAUTION: This this product should not be handled or used by children to prevent accidental exposure to UV-C rays.

Technical Specifications

Environment

Operating Temperature: 15°C to 35°C (59°F to 95°F)
Storage Temperature: 0°C to 40°C (32°F to 104°F)
Relative Humidity: 5% to 95% non-condensing

UV-C Bulb

Replacement bulb: 4 Watt UV-C bulb (replace with Verilux® brand only)

Battery

4.8V, 1500mAh NiMH battery pack

Power Supply

Input Power: 100-240 VAC, 50/60 Hz, 0.5 A
Output Power: DC 6.5V 1.5A
Conforms to CEC Class V efficiency classification.

This Class B digital apparatus complies with Canadian ICES-003.

One Year Limited Warranty

ATTENTION! ONCE OPENED, PLEASE **DO NOT** RETURN THIS PRODUCT TO THE STORE WHERE IT WAS PURCHASED FOR REPAIR OR REPLACEMENT!

Many questions may be answered by visiting www.verilux.com, or you may call our Customer Service Department at 1-800-786-6850 during normal business hours.

This limited warranty is provided by: Verilux, Inc., 340 Mad River Park, Waitsfield, VT 05673

Verilux warrants this product to be free from defects in material and workmanship for a period of one year from the date of the original retail purchase from Verilux or an authorized Verilux distributor. **Proof of purchase is required for all warranty claims.** During the limited warranty period, Verilux, Inc. will, at its option, repair or replace defective parts of this product, at no charge to the customer, subject to the following limitations: This limited warranty does not include any postage, freight, handling, insurance or delivery fees. This warranty does not cover damage, defect or failure caused by or resulting from accident, external destruction, alteration, modification, abuse, misuse or misapplication of this product.

This warranty does not cover damage to the product resulting from return shipping or handling. The use of shipping insurance is recommended to help protect your product.

Return Authorization is required for all returns. To obtain a Return Authorization, please contact the Verilux Customer Service Department at 1-800-786-6850, or http://www.verilux.com/customer-service-form.

If, during the first year of ownership, this product fails to operate properly, it should be returned as specified at www.verilux.com/warrantyreplacement or as instructed by a Verilux customer service representative at 1-800-786-6850.

Note: *Verilux recommends using a quality surge suppressor on all electronics equipment. Voltage variations and spikes can damage electronic components in any system. A quality suppressor can eliminate the vast majority of failures attributed to surges and may be purchased at electronics stores.*

Due to ongoing improvements, actual product may have slight variations from the product described in this manual.

Please visit our web site at: www.verilux.com or call

1-800-786-6850

Representatives are available Monday — Friday, 9am — 5pm EST

verilux®

340 Mad River Park, Waitsfield, VT 05673

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