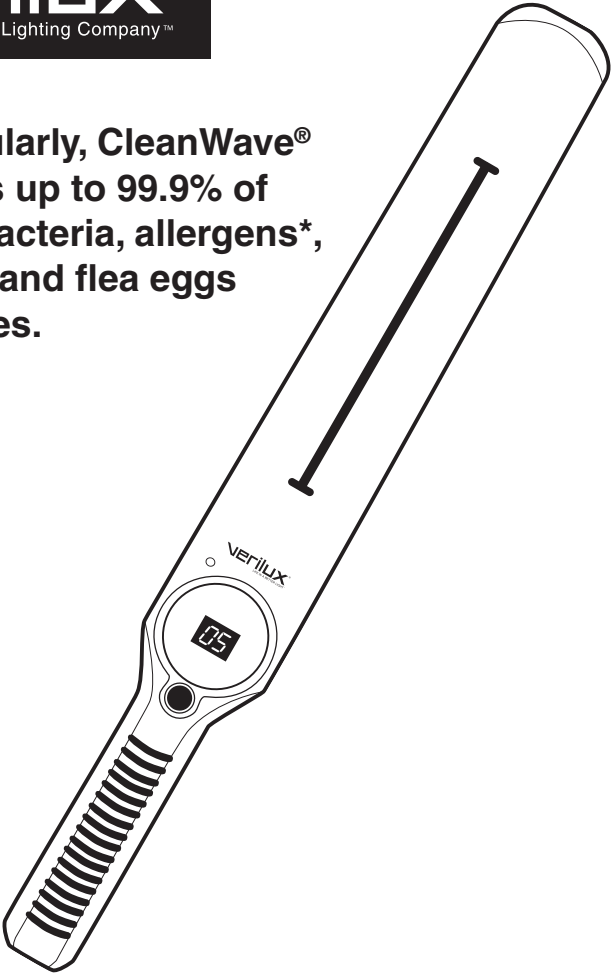




Used regularly, CleanWave® eliminates up to 99.9% of viruses, bacteria, allergens\*, dust mite and flea eggs on surfaces.



# CleanWave®

UV-C Sanitizing Wand

**VH01WW4**

*\*Allergens due to mold and dust mites*

**SAVE THESE INSTRUCTIONS**

Job#: 0.000	Title: VH01 Manual
Date: 12/01/09	Version: VH01-MAN-Rev11



Dear Customer,

Thank you for purchasing the Verilux CleanWave® 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](http://www.Verilux.com) to request a free catalog and learn more about all our quality Verilux products, or call our toll-free number 1-800-786-6850.

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!

A handwritten signature in black ink that reads "Nicholas Harmon". The signature is written in a cursive, flowing style.

Nicholas Harmon  
President

# Contents

Warnings and Precautions ..... 4

What's Included..... 5

Introduction ..... 6

Sanitizing Wand Features ..... 8

Sanitizing Wand Initial Set-up ..... 9

    Installing the Battery ..... 9

    Charging the Wand ..... 10

Sanitizing Wand Operation ..... 10

Guidelines For Use ..... 12

Sanitizing Wand Bulb Replacement ..... 13

Sanitizing Wand Troubleshooting..... 13

Technical Specifications ..... 14

Warranty ..... 15

Job#: 0000	Title: VH01 Manual
Date: 12/01/09	Version: VH01-MAN-Rev11

## Warnings and Precautions

- To prevent fire or shock hazard, do not expose this product to rain or excessive moisture.
- Do not leave product unattended while on.
- No serviceable parts. Refer all servicing to qualified service personnel. Servicing is required when the apparatus is damaged in any way, for example the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.
- CleanWave® Wands should not be exposed to dripping or splashing and objects filled with liquids, such as vases, should not be placed on or near the apparatus.
- This unit should not be handled or used by children due to the danger of accidental direct exposure to UV-C rays.
- Always direct the UV-C rays AWAY from the eyes and skin.
- Never use this device on pets.
- Care should be taken to prevent bulb breakage.
- Allow bulb to cool before replacing.
- Not intended for use on food.

**WARNING:** Direct exposure to this lamp 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:** Mercury Hazard. Be careful to not break the bulb during replacement. UV-C bulbs contain a small amount of mercury, which can cause injury if inhaled or ingested. For more information on clean up and disposal, see [www.energystar.gov/ia/partners/promotions/change\\_light/downloads/fact\\_sheet\\_mercury.pdf](http://www.energystar.gov/ia/partners/promotions/change_light/downloads/fact_sheet_mercury.pdf)

**CAUTION:** Over time, UV-C light may degrade, discolor and/or bleach plastic and rubber.

**CAUTION:** With prolonged or overexposure, UV-C light may degrade, discolor and/or bleach fabrics and colors.

### DANGER

Ultraviolet (UV-C) Radiation Hazard

Over exposure will cause significant eye damage and may cause skin damage.

Do not look into UV-C light source.

### 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.

## Warnings and Precautions continued

### FCC INFORMATION

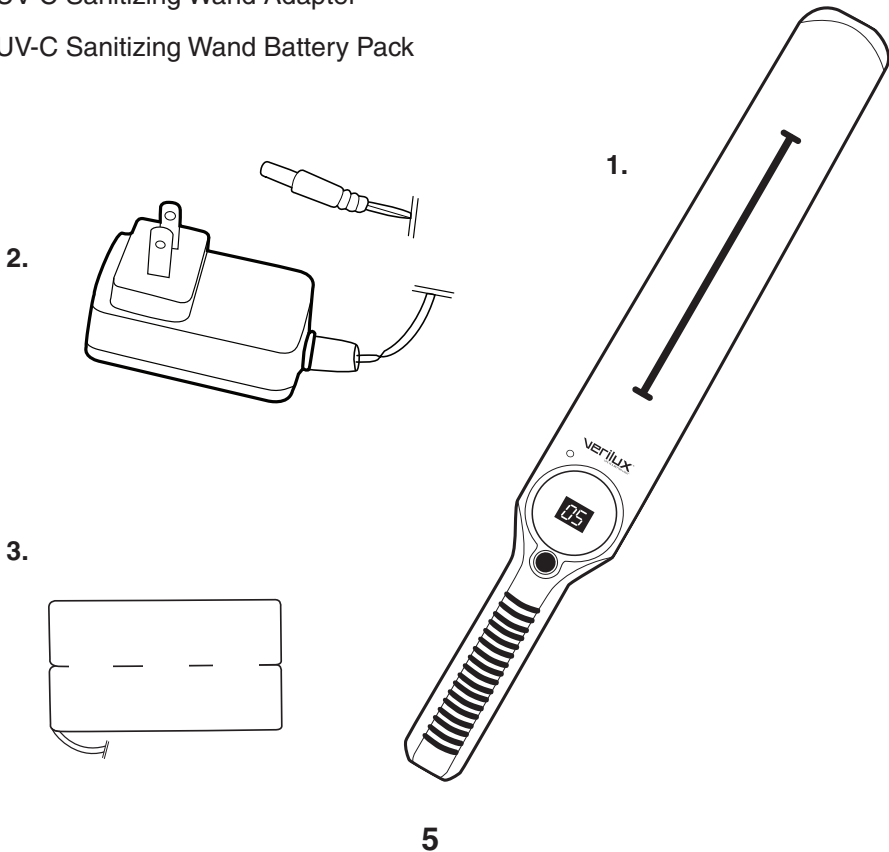
**This device complies with Part 18 of the FCC Rules.** This product may cause interference to radio communications and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45 - 30 MHz.

**Warning:** Changes or modifications to these units not expressly approved by the party responsible for compliance could void the user's authority to operate equipment.

SAVE THESE INSTRUCTIONS

### What's Included

1. UV-C Sanitizing Wand
2. UV-C Sanitizing Wand Adapter
3. UV-C Sanitizing Wand Battery Pack



## Introduction

Your new Verilux® CleanWave® UV-C Sanitizing Wand eliminates up to 99.9% of viruses (including H1N1), bacteria (including MRSA), germs, mold, dust mite and flea eggs.

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

Ultraviolet or UV light is the part of the electromagnetic spectrum – from about 10 nm to 400 nm – that contains frequencies just higher than visible light. Above ultraviolet rays are X-rays. And above X-rays are gamma rays – the highest – and highest energy – waves yet found.

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 radiation beyond blue – radiation that was invisible. He called this new type of radiation 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 highly lethal to microorganisms. This range is known as the Germicidal Spectrum.

## Introduction continued

UV-C light sanitizes microorganisms and biological pollutants, including 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 sterilization system. Hospitals, food processing facilities, scientific laboratories, water treatment plants and air-handling systems use UV-C light to eliminate up to 99.9% of contaminants and germs.

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

The “Ultraviolet” article at Wikipedia (<http://en.wikipedia.org/wiki/Ultraviolet>) offers a wealth of additional information and a comprehensive list of “See Also” links and References.

### Benefits of Using UV-C Light

- **No Chemicals.** Your home may contain more deadly chemicals than laboratories did 50 years ago. With Verilux’s CleanWave Technology, you can sanitize surfaces effectively and safely without chemicals and chemical residues. The CleanWave eliminates up to 99.9% of bacteria, viruses, germs, fungus, allergens\* and mold with no chemical residue.
- **Sanitizing with UV-C light means you don’t need harsh chemicals that pollute our water and add unnecessary product packaging to our landfills.** Reduced production of household cleansers means fewer chemicals in our environment and reduced fuel expenditures for transporting them to the marketplace.
- **Odor elimination.** Bedding and couches will smell and feel fresh with consistent use of the Sanitizing Wand. Because CleanWave eliminates biological material that causes odors, musty smells and pet odors are virtually eliminated.

*\*Allergens due to mold and dust mites*

## Sanitizing Wand Features

Your new Verilux® CleanWave® Sanitizing Wand eliminates up to 99.9% of germs, viruses, bacteria and mold on surfaces throughout your home. Use regularly on surfaces to help keep your home sanitized without the risk of chemical contamination.

- A powerful Ultraviolet (UV-C) illumination system that eliminates up to 99.9% of viruses, germs, mold, dust mite and flea eggs on surfaces.
- Removes odors and dangerous allergens\*.
- Perfect for use on bed clothes, in closets, as well as sofas and chairs.
- Portable, hand-held design is easy to operate.
- Built-in count up timer that displays the total time the Wand is used during each session.
- Status Indicator that informs the user when the Wand is charging and when it is on.
- The 6-inch UV-C light bulb allows wide coverage and makes sanitizing large areas quick and easy.

*\*Allergens due to mold and dust mites*

### Safety Feature

An internal safety switch that will automatically turn off the Wand if the light source is turned upward.



## 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.

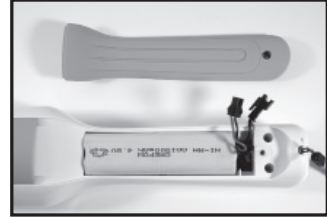
### Installing the Battery

**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 UV-C 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.

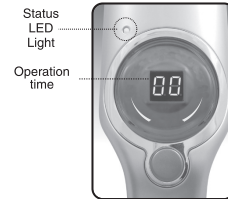


## Sanitizing Wand Initial Set-up continued

### 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 1 1/2 hours when fully charged. You will not over-charge the battery or otherwise harm the device by keeping it connected to the charger between uses.



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

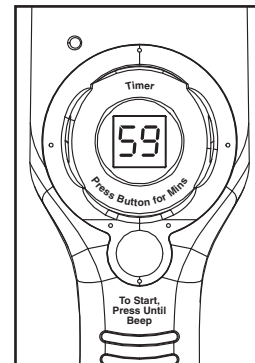
## Sanitizing Wand Operation

### 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 microorganisms 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 Guidelines for Use (page 12) for more specific information.
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 shown above.

## Guidelines For Use

The UV-C Sanitizing Wand is effective for eliminating germs, bacteria, viruses, dust mite and flea eggs and mold from surfaces such as:

Bedding/mattresses	Teakettle handles
Brushes	Handrails
Earrings	Faucets
Bathroom fixtures	Showers
Curtains	Telephone handsets
Chairs and sofa backs	Remote controls
Shoes	Doorknobs
Computer keyboard and mouse	Light switches
Baby changing stations	Steering wheel
Children's toys	Shopping cart handles
Stuffed animals	Airplane seat headrest
Pet areas	Hotel bedding
Pet bedding	Alarm clock
Auto seats	Wallets and purses
Furniture	Cell phones
Throw rugs	Music players

## 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](http://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 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.

**WARNING:** This unit should never be handled by children. Always direct the UV-C rays AWAY from the eyes and skin.

## 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: AC 100-240V, 50/60Hz, 0.5A

Output Power: DC 6.5V 1.5A

Class II

Conforms to IEC Class II safety requirements and the CEC Class IV efficiency classification.

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

**Warning:** This product contains Mercury in the bulb, a substance known to the state of California to cause birth defects or other reproductive harm. Use caution when handling broken bulbs.

This device complies with the appliance efficiency regulations laid down by the California Energy Commission.

# Warranty

## One-Year Limited Warranty

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

Many questions may be answered by visiting [www.Verilux.com](http://www.Verilux.com), or you may call our customer service department at 1-800-786-6850.

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. 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, 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.

If, during the first year of ownership, this product fails to operate properly, it should be returned as specified below:

Please pack the defective product in its original protective packing and box, with a copy of your name, address, telephone number and sales receipt, along with \$9.95 (check or money order to cover shipping and handling), and send to:

**For U.S. Postal Service Only:  
Verilux Warranty**

**Service Center, c/o WTB**

P.O. Box 119, West Redding, CT 06896

**For Fed Ex & UPS Only:  
Verilux Warranty**

**Service Center, c/o WTB**

32 Henry Street, Bldg 17A, Bethel, CT 06801

Please allow 4-6 weeks before you receive the repaired or replaced product.

**ATTENTION:** When returning a product, be aware that damage during shipping is the responsibility of the purchaser and will void any warranty claim. We recommend that you insure the shipment by shipper when returning this product or any parts. Be sure to return product in original packaging.

*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](http://www.Verilux.com)**



**340 Mad River Park, Waitsfield, VT 05673**