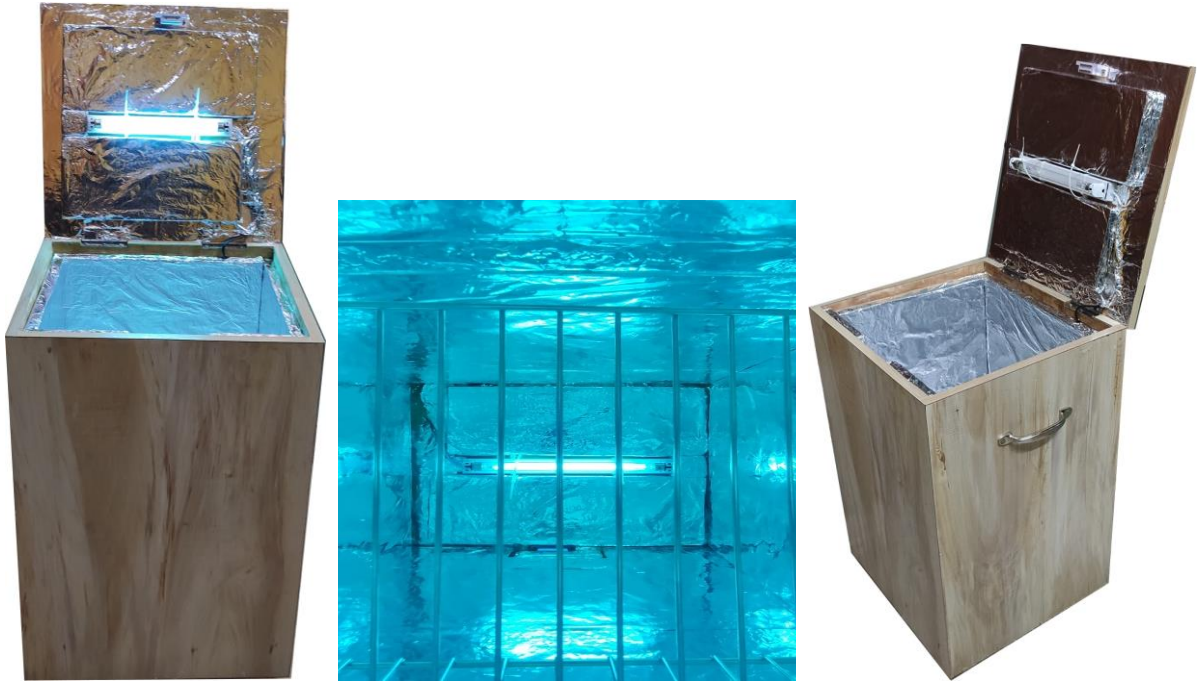


# *UV ray wooden sanitizer box*



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**Description:**

The UV ray wooden box is designed to protect from infections carried on surfaces of items while being safe.

We can't able to sanitize mobiles, tabs, laptops, car or bike keys, wallets, cash, credit or debit cards, news papers, pens, goggles, spectacles, watches, milk packets, bakery items, water absorbing products, delivery packages, toys, new clothes etc, through liquid sanitizers or else with water. So that, we can use this UV ray wooden box to sanitize all the items efficiently with chemical free.

UV – C has a wavelength of 10 nm to 400 nm and is used for disinfection method that has the short-wavelength light to kill or inactivate microorganisms by destroying nucleic acids and disrupting their DNA, leaving them unable to perform vital cellular functions.

As per researchers, corona virus stays on the surfaces like, plastic(3-7 days) stainless steel(3-7 days), copper( up to 4 hours), paper( up to 4 days), glass(4 days), cardboard(24 hours), wood( up to 2 days). [\[1\]](#)

Scientists have known for decades that broad-spectrum **UVC** light, which has a wavelength of between 200 to 400 nanometers (nm), is highly effective at killing bacteria and viruses by destroying the molecular bonds that hold their DNA together.

**Disinfection time:**

According to study by Boston University UV-C dose of 220 J/m<sup>2</sup> was required to achieve a 99.999% reduction. [\[2\]](#)

As per the dimensions of my box, the calculated time is less than 2 minutes. This time is applicable for the objects in a regular shape. Since most of the objects are irregular shape, to be for the safe side and for effective disinfection, the recommended time is 10 to 15 minutes, so that all the corners of the object exposed properly. [\[3\]](#)

**Process to use this product:**

1. Take the objects which we want to sanitize and keep in the box.
2. Close the lid of the box and switch it ON for 10 to 15 minutes for disinfection.
3. After the recommended time, switch OFF it and take the objects back.

**Specifications:**

Outer dimensions of the box (L x B x H)	37cm x 39cm x 57cm
Device Input power supply	220V
Lamp input power	11 W
Lamp current	0.33A
Lamp voltage	34V
Output of UV-C Radiation at 100 hr	2.6 W
Lamp useful life	9000h
Lamp mercury	4.4 mg
Volume of the box	58 liters

[\[4\]](#)**Advantages of this product:**

1. It is a complete chemical free product.
2. It is strong enough to bear the weight on the box also as it is made with wooden.
3. Large items like college bags, 2litre liquid bottles, toys, etc., can be sanitized in this box.
4. Mainly we can use this box in a multipurpose way. Once this pandemic is completed, if we don't want to use it for sanitization, we can convert it by making small changes inside and use for our own purpose after removing the bulb, aluminum foil.

***FAQ's*****What is the effect of UV-C light on food products?**

A) The UV-C light will kill all the bacteria and viruses on the surface of the food items, and it is proven that there is no harm to the edible items. [\[5\]](#) [\[6\]](#) [\[7\]](#)

**What is the effect of UV-C light in electronic gadgets?**

A) As per researchers, UV-C light will not penetrate into the solid surfaces and it is safe to use for touchscreen mobiles, laptops, tabs, etc. [\[8\]](#)

The average mobile phone carries 18 times more potentially harmful germs than a flush handle in a men's toilet, tests have revealed. [\[9\]](#)

For only mobiles, there are products like [PhoneSoap](#). Instead of buying all these products, we can easily use this product for sanitizing the mobiles.

#### **Where we can use it?**

- A) 1. It can be used in our homes, offices, cabins, stores, service centers, banks etc.  
2. It can be used in hotels by making a big sanitizer box with large dimensions with a couple of UV-C lights for sanitizing all the groceries, vegetables, packed items.

#### **Where we should not use this products?**

- A) 1. UV rays were harmful to skin, so we should not use it for sanitizing hands, and we should take care before using it.  
2. Should not sanitize the medical products through this box.

#### **References:**

[1] By Jill Seladi-Schulman, Ph.D. from Healthline

[2] LaserAsia

[3] Article by Paul J. Meechan and Christina Wilson from Merck Research Laboratories, West Point, Pennsylvania and Muhlenberg College, Allentown, Pennsylvania.

[4] Philips Lighting

[5] A review by Maria Turtoi, from Faculty of Food Science and Engineering, Dunarea de Jos University of Galati.

[6] A review by Shubham Vasuja and Venkat Kumar S, from vellore Institute of Technology, India.

[7] From NDTV FOOD

[8] A study by Matt Mowry, Igus North America.

[9] From NDTV

