

## INTRODUCING OTS PORTABLE COMMERCIAL SANITIZING UV SYSTEM

Ultraviolet (UV) light is a form of light that is invisible to the human eye. It occupies the portion of the electromagnetic spectrum between X-rays and visible light. The sun emits ultraviolet light; however, much of it is absorbed by the earth's ozone layer.

Scientists have known for decades that broad-spectrum UV light, which has a wavelength of between 200 to 300 nanometers (nm), is highly effective at killing bacteria and viruses by destroying the molecular bonds that hold their DNA together. This conventional UV light is routinely used to decontaminate surgical equipment and surgical suites.

Germicidal irradiation, benefits, and differences of <b>ULTRAVIOLET LIGHT</b>				
UV type	NANOMETERS (nm)	SAFE for skin and eyes	RAPID DEGRADATION on materials like plastic and rubber	PRACTICAL USES
VUV Far-UV	100-200	YES	YES	Medical equipment
Far-UVC	207-222	YES	YES	Germicidal, <b>most effective for disinfecting</b> , sensing
UV-C	200-280	NO	YES	Germicidal, <b>most effective for disinfecting</b> , sensing
UV-B	280-315	NO	YES	Curing, tanning, medical applications
UV-A	315-400	NO	NOT TYPICALLY	Curing, printing, lithography, sensing, medical applications

A significant body of scientific research has proven UV light's ability to inactivate an extensive list of pathogenic bacteria, viruses and protozoa. UV offers a key advantage over chlorine-based disinfection, due to its ability to inactivate protozoa. UV light, specifically between 200-280nm[i] (UVC or the germicidal range), inactivates (aka, 'kills') at least two other coronaviruses that are near-relatives of the COVID-19 virus: 1) SARS-CoV-1[ii] and 2) MERS-CoV[iii] [iv] [v]. The effectiveness of UV light in practice depends on factors such as the exposure time and the ability of the UV light to reach the viruses.

Here is what scientists do know. Pathogens can be ranked based on their tolerance to disinfectants, like UV lights. Coronaviruses fall into the category of "enveloped viruses," or a Class 3. Class 3 viruses are the easiest to kill. Products that are able to kill more resilient viruses like small and large non-enveloped viruses (Class 1 & 2 viruses) should also be able to kill enveloped viruses like coronaviruses. Many UV lighting manufacturers say their products can kill most Class 1 viruses. Based on this information, UV lights are *believed* to be effective at killing COVID-19. Since the virus is so new, official testing against the novel coronavirus should be underway soon.

For more information on Coronavirus Disease 2019 (COVID-19)

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/decontamination-reuse-respirators.html>

Unlike chemical approaches to water disinfection, UV provides rapid, effective inactivation of microorganisms through a physical process. When bacteria, viruses and protozoa are exposed to wavelengths of UV light, they are rendered incapable of reproducing and infecting. UV light has demonstrated efficiency against pathogenic organisms, including those responsible for cholera, polio, typhoid, hepatitis and other bacterial, viral and parasitic diseases.

According to AFP fact check "Ultraviolet is able to kill COVID-19 if it is exposed to the concentrated UV ray in a certain amount of time and distance. Most likely, it will be in the light bulb or lamp as the natural UV from the sun is not strong enough to kill it. The World Health Organization agrees.

**Pathogen kill rate** – Tests show that germicidal UV lights kill up to 99.9% of bacteria and viruses by actually changing the DNA and RNA. Destroying their ability to reproduce. On top of that, pathogens cannot become resistant to UV light like they can certain antibiotics and antibacterial products.

**Limited chemical exposure** – UVC lights work in place of potentially harmful chemicals. It's safe to enter a room after germicidal UV lights are at work, but it might be hard to breath in a room that has just been sprayed down with chemicals.

Germicidal UV light products tout pathogen kill rates higher than a 99.9% rate. Because of their effectiveness, they're incredibly useful right now for hospitals, medical labs, senior care centers, fire and police stations, and airports, but can also be used in schools, government buildings, office buildings, and hotels.

The COVID-19 situation is rapidly changing, and it's causing priorities to shift for a lot of us. Protecting patients, customers, workers, and our families is more important than ever before. Disinfecting frequently used surfaces is extremely important, and UV light is very effective at killing pathogens like viruses and bacteria.

It's also important to note UV light does not replace other cleaning measures like washing hands or removing dirt and dust from surfaces. Those are still important actions to take to prevent the spread of COVID-19 and other germs.

**The OxyTech sanitizing system consists of:**

One lightweight handheld disinfecting wand.

One power supply.

High power across the entire UV spectrum.

For further information please contact OxyTech Systems 847-888-8611.

Proudly Made in the USA.

[www.oxytechsystems.com](http://www.oxytechsystems.com)

