ALKCO

Germicidal UV

Disinfection with the power of light

UV-C light has been a proven, effective way to disinfect air and surfaces for over 40 years

Absolute confidence,

in a world of uncertainty

We are living in unprecedented times.
In the face of a global pandemic, the world is demanding a proven, fast and effective way to protect people from harmful micro-organisms.

Bacteria and viruses can cause a wide range of common infections – everything from cholera to COVID-19. They can spread through the air and live on surfaces from hours to days without proper disinfection[1]. That means any contamination left behind on the surfaces we touch and in the air we breathe can have a profound effect on our day-to-day health and well being.

Alkco germicidal UV luminaires with UV-C lamp systems have the power to neutralize harmful micro-organisms that might be present. And that can help reduce the risk of contracting viruses and bacteria and spreading them even further. In schools, public restrooms, offices, retail outlets and factories, Alkco germicidal UV luminaires can be used to disinfect the air in a room and help keep surfaces clean.

1. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cleaning-disinfection.html

The reason is simple

UV-C radiation is a proven disinfectant for air, surfaces and water. It has been used extensively to mitigate the risk of acquiring infections for more than 40 years[1]. Many hundreds of bacteria and viruses have been tested to date, including various coronaviruses, and all respond to UV-C disinfection[2]. In laboratory testing, Signify's UV-C light sources inactivated 99% of SARS-CoV-2 virus on a surface with an exposure time of 6 seconds[3]. This is a clear indication that UV-C light can provide a sense of security in your disinfection strategy.

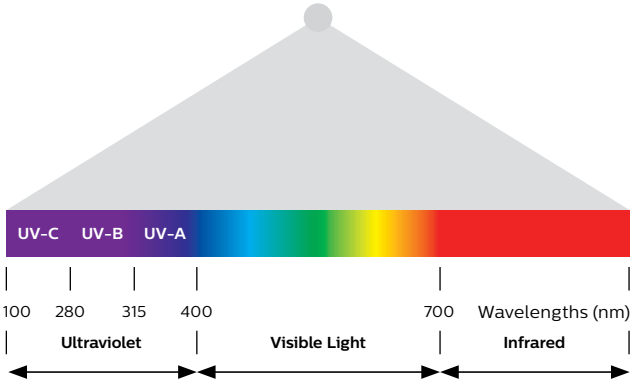
1. EPA Report, "Building Retrofits for Increased Protection Against Airborne Chemical and Biological Releases" Pg. 56.
2. Fluence (UV Dose) Required to Achieve Incremental Log Inactivation of Bacteria, Protozoa, Viruses and Algae Revised, updated and expanded by Adel Haji Malayeri, Madjid Mohseni, Bill Cairns and James R. Bolton. With earlier contributions by Gabriel Chevrefils (2006) and Eric Caron (2006) With peer review by Benoit Barbeau, Harold Wright (1999) and Karl G. Linden.
3. Data made available to us by theNational Emerging Infectious Diseases Laboratories(NEIDL) at Boston University, which has been collected from a laboratory experiment conducted by Dr. Anthony Griffiths(Associate Professor of Microbiology at Boston University School of Medicine) and his team at the premises of the NEIDL(such data will be the subject of aforthcoming scientific publication by Boston University), shows that Signify's UV-C light sources irradiating the surface of a material inoculated with SARS-CoV-2 (the virus that causes the COVID-19 disease) at a UV-C dose of 5mJ/cm2(exposure time 6 seconds) resulted in a99% reduction of the SARS-CoV-2 virus present on that surface.This studydetermined that a UV-C dose of 22mJ/cm2results in a reduction of 99.9999% of SARS-CoV-2 virus on that surface (exposure time 25 seconds). Research variables are available upon request.

Shining a light on
UV technology

UV technology deactivates bacteria, viruses and fungal spores, rendering them harmless.

No toxic chemicals

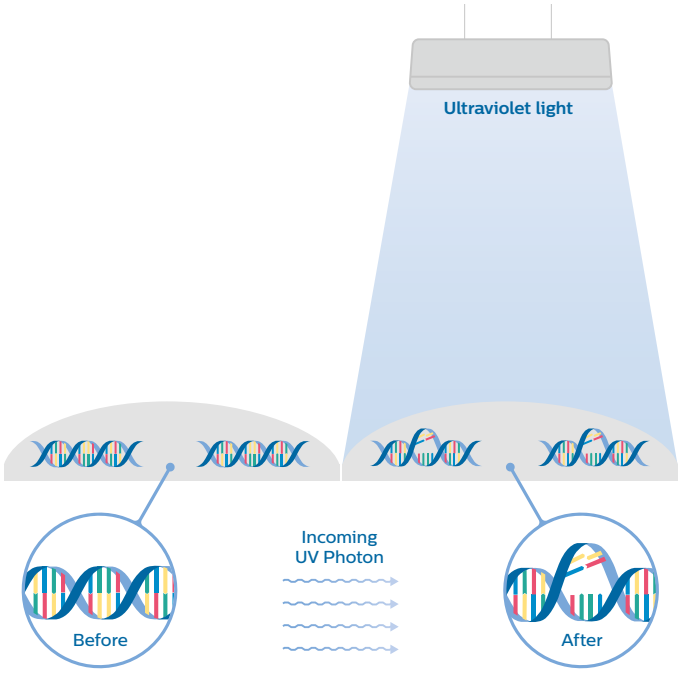
UV disinfection is a physical, rather than a chemical process. With no need to make, handle, transport or store toxic, hazardous or corrosive chemicals, it's a solution that is both simple and safety conscious. The disinfection effect is directly related to the UV dose and leaves no chemical residue, unlike liquid cleaning processes.



UV-C technology has primarily been used in areas where there is a risk of microbiological contamination and has been used safely and effectively in certain applications for more than 40 years. But today, the advantages of using UV technology are applicable to a far wider range of settings, where the risk of contracting and spreading diseases from bacteria and viruses is ever present.

How does UV-C work?

In the light spectrum, UV-C is found within the 100 to 280 nanometer (nm) range. It has a specific wavelength of 253.7 nm, which means that UV-C light breaks down the DNA of bacteria, viruses and spores. This renders them harmless so they cannot replicate or cause disease.[1]



1. A comparison of pulsed and continuous ultraviolet light sources for the decontamination of surfaces. McDonald K.F., Curry R.D., Clevenger T.E., Unklesbay K., Eisenstark A., Golden J., Morgan R.D. IEEE Trans. Plasma Sci. 2000;28:1581–1587. doi: 10.1109/27.901237.

Alkco germicidal UV

The power to protect

Signify has decades of experience and expertise in developing and manufacturing UV-C products. So we're confident that our Alkco germicidal UV luminaires with UV-C lamps deliver on all the promises of UV technology.

Designed for efficacy

Alkco germicidal UV products offer an innovative, high-quality solution that is suitable for a wide range of applications. Designed for the disinfection and purification of radiated surfaces and air, they can provide UV-C irradiance with homogeneous distribution. Other elements like the use of aluminum housings combined with a host of reflector options provides the utmost efficacy while directing the UV-C light to exactly where it is needed.

Safety first

As UV-C light is invisible to the human eye, Alkco germicidal UV solutions are designed with a range of safeguards. These include a timer option to delay operation until after people are no longer in the vicinity, and a sensor option that automatically switches the luminaire off if any people are detected.

Clean air

Alkco germicidal UV solutions can also be used to disinfect the air in a room, keep HVAC systems clean, and help clean the air. This can be done in any one of three ways: using upper air systems that disinfect passing air; in open UV-C systems or using robots to disinfect spaces overnight or at times when they are not in use; or with solutions that can be used in air conditioning systems.

Easy installation

With the goal of making professional installation quick and simple, training will be available with the experienced Signify team ensuring proper installation standards, including integration with a building management system (BMS), control system, or alarm system.

Benefits at a glance...

- UVC effectively inactivates many viruses and germs on directly irradiated surfaces.[1]
- Proven, effective disinfection over the useful lifetime of lamp and luminaire.
- Standard and timer options to delay power on for extra protection.
- Sensor option with automatic power off in case of occupancy detection.
- Environmentally friendly with no chemical residue.
- Complies with all applicable regulations and standards.

1. Fluence (UV Dose) Required to Achieve Incremental Log Inactivation of Bacteria, Protozoa, Viruses and Algae Revised, updated and expanded by Adel Haji Malayeri, Madjid Mohseni, Bill Cairns and James R. Bolton. With earlier contributions by Gabriel Chevrefils (2006) and Eric Caron (2006) With peer review by Benoit Barbeau, Harold Wright (1999) and Karl G. Linden

Designed with
safety in mind

Like any disinfection system, UV-C lamps and devices must always be installed and used in the correct way, following the instructions provided, and with safety in mind. All these solutions emit UV-C light in varying amounts, which can be harmful in some circumstances. For example, if the skin is exposed to UV-C light it can result in a sunburn-like reaction. Similarly, if the eyes are exposed to UV-C light it can also damage the retina, which can be serious and very painful.

It is imperative that people are always shielded from direct radiation emitted by UV-C lamps.

Expert safety support

Alkco germicidal UV solutions present minimal risk when used by professionals and people who know how to use them. In addition to safety features, such as sensors and timers that are available as options, our products are supported by:

- A user manual on correct operation, usage and maintenance.
- Training for professional installers on safety installation standards and compliance – including integration with an alarm system, BMS or control system.
- Proven disinfection recipes that specify reach, distance and time of dosage for specific microorganisms.
- Experienced experts for end-to-end support from design-in and specification to installation, usage and maintenance.

Always advise caution

In addition to these safety steps, we strongly recommend that all warnings are clearly communicated on third-party websites, information and instruction materials, as well as in face-to-face meeting and safety briefings.

Direct exposure to UV-C is dangerous.

Alkco germicidal UV luminaires with UV-C lamp systems must only be sold through qualified partners and installed by professionals according to our stringent safety and legal requirements. Our UV-C products are not meant to be used in applications or activities which may cause and/or lead to death, personal injury and/or damage to the environment.

Professional air and surface disinfection

Everywhere it's needed

Alkco germicidal UV luminaires with UV-C lamps can be used to disinfect surfaces and objects in a wide range of applications. These include schools, public restrooms, offices, retail outlets, factories as well as the food and beverage industry.

In addition to our global portfolio of UV-C products, we can also partner with OEMs looking to design-in specialized disinfection and purification products for niche markets with professional and residential needs.

For more information on the benefits of Alkco germicidal UV in your chosen application, please contact your local Signify representative.

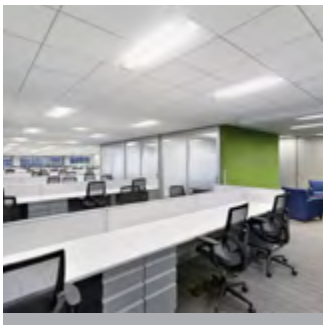
The power to protect in **real-world applications**

Retail

Keep shelves and counters free from contamination

Schools

Disinfect classroom walls, floors, desks and surfaces



Offices

Neutralize work rooms, meeting spaces and corridors

Banking

Disinfect counters, cash machines and work surfaces

Hospitality

Protect guest rooms, health facilities and reception areas

Restrooms

Sterilize vanity units, basins and mirrors

Food outlets

Eliminate bacteria on preparation surfaces and equipment

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