

More on UVGI.

Ultraviolet rays have shorter wavelengths than visible light. A wavelength, the distance between the crests of two waves, is often measured in units called nanometers. A nanometer (nm) is a billionth of a meter, or about 1/25,000,000 inch. Wavelengths of visible light range from about 400 to 700 nm. Ultraviolet wavelengths range from about 1 to 400 nm and are beyond the range of visible light.

Ultraviolet technology is a non-chemical approach to disinfection. In this method of disinfection, nothing is added which makes this process simple, inexpensive and requires very low maintenance. Ultraviolet purifiers utilize germicidal lamps that are designed and calculated to produce a certain dosage of ultraviolet (usually at least 16,000 microwatt seconds per square centimeter but many units actually have a much higher dosage.) The principle of design is based on a product of time and intensity - you must have a certain amount of both for a successful design.

Ultra Violet Irradiation is an effective method of killing a broad range of microbes. In essence, the UV radiation breaks the molecular bonds in the organism's DNA. The most effective wavelength for accomplishing this is 263nm; however, the very intense 254nm output from low pressure Hg lamps is also very effective, as well as broader spectral output from medium pressure UV lamps.

UV disinfects through a photochemical process. The contaminants that pollute the indoor environment are almost entirely based upon organic or carbon-based compounds. These compounds breakdown when exposed to high intensity UV at 240 to 280 nm. Short-wave ultraviolet light can destroy DNA in living microorganisms and breakdown organic material found in indoor air. UVC effectiveness is directly related to intensity and exposure time.

Also see [ultraviolet light definition](#).

CAUTION:

Germicidal lamps emit UV which can be harmful. Caution notices are provided in accordance with ANSI / IESNA RP-27.3-96 Recommended Practice for Photobiological Safety for Lamps - Risk Group Classification & Labeling. Germicidal lamps are in Risk Group 3 (High Risk). Avoid exposure to eyes and skin to unshielded lamp. Skin or eye injury will result. Proper fixturing and operation is essential for safe and effective application of this product.