

Below are common questions about PurgoUV-13. If you do not find your question or answer, please contact us at 800-567-1443 or info@wheelhouseindustries.com.

Does the Purgo-UV13 produce Ozone?

The short answer is NO. UVC lights are rated by a very specific wavelength measured in nanometers (nm). Yes, many UVC lights do in fact produce ozone. However, a UVC light at the height of the bell curve (253.7nm normally known as 254) does not produce ozone. Some technical papers go as far as saying "they destroy ozone". The industry standard is to use a 254 nm bulb designed for killing bacteria, viruses, molds, etc.

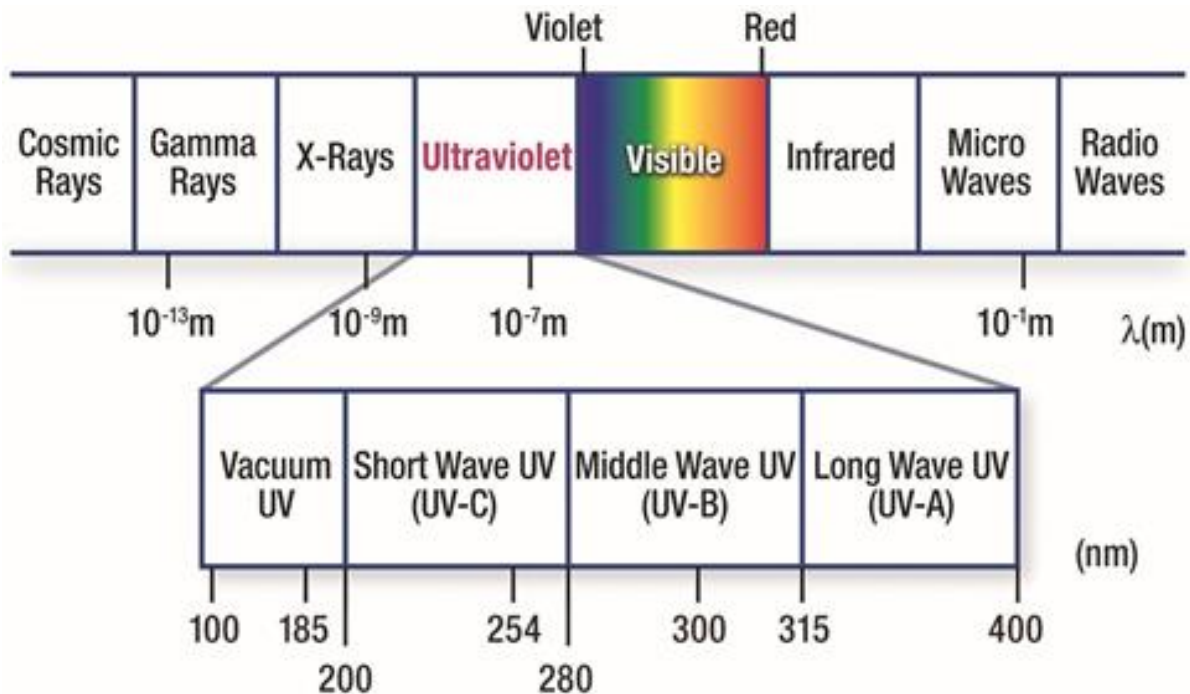
How does Ultraviolet Germicidal Irradiation work?

UV light comprises a segment of the electromagnetic spectrum between 100 and 400 nm, corresponding to photon energies from 3 to 124 eV. The ultraviolet segment has four sections, labeled UV-A (400 to 315 nm), UV-B (315 to 280 nm), very high energy and destructive UV-C (280 to 200 nm), and vacuum UV (100 to 200 nm).

You may be familiar with the deleterious effects of UV transmitted by sunlight in the UV-A and UV-B wavelengths, giving rise to UV inhibitors, or blocking agents, which are found in sunglasses and suntan lotions. You also may be familiar with products engineered to withstand the effects of UV radiation, such as plastics, paints and rubbers. However, unlike UV-A and B, the UV-C wavelength has **FIGURE 1: The electromagnetic spectrum, with a breakout of visible light segments –colors. more than twice the electron.**

The UV spectrum ranges from 100 nm to 400 nm and is invisible. volt energy (eV) as UV-A, and it is well absorbed (not reflected) by organic substances, adding to its destructiveness. It owes these effects to the biocidal features of ionizing radiation, that is, (254) UV-C Germicidal Ultraviolet (UV) lamps that effectively destroys the DNA of airborne microbes including bacteria, and mold.

(see page 2 for Figure 1)



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What are the benefits of using germicidal ultraviolet?

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 have a much higher dosage). The principal of design is based on a product of time and intensity – you must have a certain amount of both for a successful design.

What is the definition of HEPA and MERV and how do they work?

HEPA is a type of pleated mechanical air filter. It is an acronym for “**high efficiency particulate air [filter]**” (as officially defined by the U.S. Dept. ... This type of air filter can theoretically remove at least 99.97% of dust, pollen, mold, bacteria, and any airborne particles with a size of 0.3 microns.

HEPA filters are used in applications that require **contamination control**, such as the manufacturing of hard disk drives, medical devices, semiconductors, nuclear, food and pharmaceutical products, as well as in hospitals, homes, and vehicles.

MERV is an acronym for “Minimum Efficiency Reporting Value”. The MERV rating on an air filter describes its efficiency as a means of reducing the level of 0.3 to 10 micron-sized particles in air which passes through the filter. Higher “MERV” means higher filter efficiency. The purpose of the MERV standard is to permit an “apples to apples” comparison of the filtering efficiency of various air filters. Air filter efficiency refers to the

relative ability of a filter to remove particles of a given size or size range from air passing through the filter.

If a filter were 100% efficient, none of the particles in a given size range would escape the filter and air which has passed through such a filter would contain zero particles. The MERV Efficiency Rating Scale ranges from 1 to 16, with 1 being the lowest efficiency and 16 describing the highest efficiency. The particle size range addressed by the MERV scale is 0.3 to 10 microns.

A logical inference is that if an air filter is removing particles down to 0.3-10 microns, it is certainly also at least that efficient at removing larger sized particles. Merv13 is commonly used for commercial and residential applications that require superb air filtration that effectively remove a higher range of particles including smoke, bacteria, viruses and provide long runtimes in places, such as conference rooms, restaurants, classrooms, retail stores, lobbies, etc.