

Facts About Ultra Violet (UV) Lights

NSF International (NSF) does not recommend UV light, however, if you are using a UV light we recommend the following:

- Closing the view screen of the biological safety cabinets (BSC) because all silicate-based glass does not permit UV light to penetrate.
- UV is recommended in the BSCs only when personnel are out of the room, and only to minimize the amount of contaminants that might collect on surfaces in the absence of High Efficiency Particulate Air (HEPA) filtration.
- The lamps should be cleaned periodically (every two weeks) by wiping them with a cloth dampened with alcohol or ammonia to maintain maximum output.
- The lamps should be replaced when the lamp drops to about 60% of its 100-hour rating. Meters are available for testing UV intensity.

BACKGROUND INFORMATION

The most efficient germ-killing wavelength is 2537 angstroms or the more common term is 253.7 nanometers (a decimal point movement to the left). Anything above or below is less efficient. The first 100 hours of operation of an UV bulb is its most efficient. After that, it falls steadily even though it is giving off a soft UV glow.

An average life expectancy for an UV bulb is 7,500 hours. Turning the fixture on and off more than once every 8 hours will diminish the longevity of the bulb.

There are factors that will influence sensitivity of bacteria to UV. High humidity and low temperature will decrease its effectiveness. Temperatures of 36 degrees will reduce the efficiency to approximately 60%. If your customer is working with spores, they are harder to “kill” – they are twice as resistant as bacteria.

UV lamps and florescent lamps are similar in how they operate, but the bulb of the fluorescent lamp is coated with a phosphor compound, which converts UV to visible light. The glass used on ordinary fluorescent lamps filters out all germicidal UV. The UV lamp is not coated and is made of a special glass, which transmits the UV.

If UV is installed at the request of the customer, it shall be installed so it doesn't reduce the required foot candles. NSF does not require performance verification of the UV light.

NOTE: The Baker Company prepared this summary in 2005.