



Application Bulletin UVP-AB-122

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USE OF STERILAIRE® ULTRAVIOLET LAMPS FOR STERILIZATION AND SANITATION APPLICATIONS

Sterilaire® Lamps from UVP, Inc. are designed to use shortwave ultraviolet 254nm radiation as a reliable and efficient tool for sterilization and sanitation applications in hospitals, laboratories, pharmaceutical companies and clinics.

Work surfaces and equipment can become contaminated with bacteria which may be passed through the air or by hand infecting research projects and workers. In addition to bacteria organisms, yeast, mold spores, germs and viruses may also be present. Sterilaire Lamps can kill up to 99% of these organisms. Use the Sterilaire Lamps to sanitize equipment when performing PCR and DNA research. Prevent contamination of nucleic acid samples by airborne contaminants. UV fluorescence assists in ensuring reliable results by sterilizing the area before the research.

Decontaminate work surfaces with UV exposure prior to PCR and reduce airborne contamination during DNA sequencing. Ultraviolet sterilization is particularly useful for temperature sensitive applications due to low operating lamp temperatures.

Once you know what microorganism you want to destroy and how much energy is required to destroy it, divide the energy required (in units $\mu\text{W seconds/cm}^2$) by the intensity of the Sterilaire Lamp ($1600 \mu\text{W/cm}^2$ at 12" for XX-15S) to calculate the time required to do the job. For example, when irradiating E.coli at $6,000 \mu\text{Ws/cm}^2$ divided by $1,600 \mu\text{W/cm}^2$ equals 4.13 seconds to sterilize. The UV intensity can be increased by moving the lamp closer to the object being sterilized.

RECOMMENDED LAMPS: XX-15S, XX-20S and XX-40S. The XX-15S irradiates an area of 15 square feet at 20" from the work surface. The XX-40S disinfects an area of 300 square feet at 12 feet. Sterilaire Lamps can be used in an upward facing position for purifying the air or in a downward position for sanitizing work surfaces. Hanging the lamp from the wall or ceiling reduces space required on premium lab benchtops. These lamps feature two shortwave UV tubes, a durable metal housing with easy-to-clean surface plus an aluminum reflector for maximum reflection. Brackets are included for ceiling or wall mounting. An ON/OFF switch is located on the side of the lamp housing.

The XX-15S can be securely mounted on the Exposure Stand for intense exposure to the shortwave UV radiation. The shelf is adjustable to different distances from the UV source, excellent for experimentation applications.



- *Sterilaire Lamps for contamination controlled air in laboratories*
- *Sterilaire Lamps to eliminate cross infection in equipment and research*