

Far-UV Sterilray™ Safety

The Ultraviolet light spectrum has bands of energy that affect skin and eyes differently. Think of these bands like color to the eye. Each color has a different effect on the retina. The bands UV-A, UV-B and UV-C all cause problems with skin and eyes since they penetrate through the epidermis and into the dermis. DNA is affected by each of the three bands of UV.

Far-UV Sterilray™ is in the Far UV spectrum. Far-UV does not penetrate the atmosphere and does not penetrate the epidermis and cornea of the eye. It is absorbed very quickly by proteins on the surface of the skin and eyes. Since it does not reach live tissue and live cells, it can not damage human-cell DNA. Consequently, this wavelength should not cause cancer. Testing is currently in process to confirm this theory. All tests to date have shown that all Far-UV photons are absorbed by the epidermis and do not penetrate into the dermis. For now, we require that the operator wear plastic glasses and keep his/her skin covered.

The American Conference of Governmental Hygienists presents a curve for the Threshold Limit Value (TLV) for an 8-hour day for different UV wavelengths. Far-UV Sterilray™ is more than 4-5 times safer compared to UV-C. In fact, the current exposure to people in rooms using fluorescent room lights reaches the TLV for UV-C in 33 hours. It would take more than 150 hours to reach the safe limit with Far-UV Sterilray™. Reflected Far-UV Sterilray™ light at 1 meter is well below the TLV for an 8-hour exposure limit.