

Ultraviolet Safety Meter 6D Monitors Risk

APPLICATION NOTE 103

Ultraviolet Radiation Exposure Increases Adverse Risks

Ultraviolet (UV) radiation has biological effects on our population. It can injure the eye and skin, but also produces vitamin D from exposed skin. Strong doses can cause painful sunburn but even weak doses on a regular basis, which have no apparent effect for a single exposure can, cumulatively, cause eye cataracts, skin cancer and skin wrinkling. There are also a number of diseases such as lupus erythematosus, solar urticaria, and actinic reticuloid, as examples, which are exacerbated by UV.

Safety Standards Limit Workplace UV Hazard Exposure

Sunlight is the single strongest ultraviolet source for the typical person. Precautions to minimize its adverse effects are an individual's responsibility. In the work environment, however, the UV hazard is not under an employee's control. The Ultraviolet Hazard Standard published by the ACGIH identifies the threshold limit value (TLV) to which a person can be safely exposed every working day. NIOSH has accepted this standard. It is management's responsibility to measure the hazard and not allow the worker to be subjected to a dose exceeding 1 TLV per day.

The UV Hazard Action Spectrum peaks at 270 nm. 3 millijoules per square centimeter of effective UV is the TLV for an 8-hour period. The spectral response of the UV Hazard Spectrum is based on measurements of UV damage to the eye and to the skin.

Ultraviolet radiation is increasingly present in the workplace. Welding, germicidal applications, erasing electronic memory, curing of plastics, observation of fluorescence, spectroradiometry, atomic absorption, dermatological diagnosis and treatment, and dental polymerization are some of the activities requiring or gratuitously producing UV.

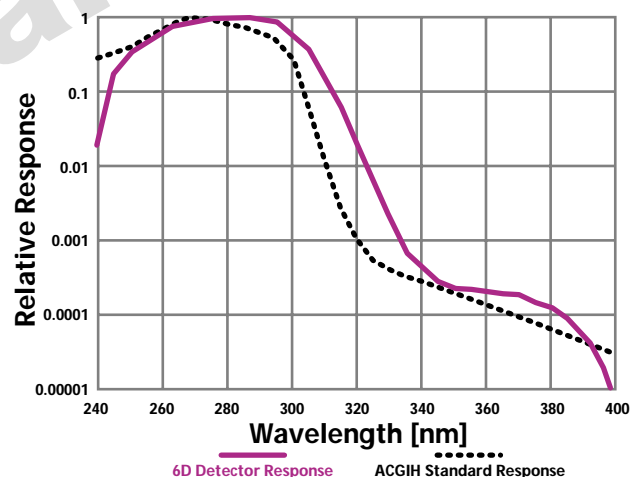
Simple Meter Protects Workers from Hazardous UV

The 6D UV Hazard Meter allows the UV risk to be quantified. Its spectral response is similar to the prescribed UV hazard spectrum from 240-400 nm and is accurate to within 15%. The meter reads in hours to reach the Threshold Limit Value. A very weak or absent UV Hazard would read up to 10 hours to reach TLV, longer than the working day.

The primary benefit of the meter is the easily obtained TLV indication of hazard. This indication allows exposure to be reduced below the TLV by reducing exposure time or by decreasing the radiation transmitted to the worker.

For more information on the 6D Meter, call Solar Light at 215-927-4206 or visit our website at www.solar.com.

UV Radiation Safety Detector Response



721 Oak Lane • Philadelphia, PA 19126-3342
Tel: (215) 927-4206 • Fax: (215) 927-6347
E-mail: info@solar.com • Internet: www.solar.com