

SAFETY ALERT

November 15, 2022

Ultraviolet (UV) Radiation Hazards

Hazards: Burns to skin and eyes due to overexposure

Ultraviolet (UV) radiation occupies the portion of the electromagnetic spectrum from 100 to 400 nanometers (nm). The UV spectrum consists of three regions:

- UV-A (315–400 nm)
- UV-B (280–315 nm)
- UV-C (100–280 nm)

The main source of UV exposure is the sun. Exposure from the sun is typically limited to the UV-A region, since the earth's atmosphere protects us from the more harmful UV-C and UV-B regions. Only artificial light sources emit radiant energy within the UV-C band. Typical laboratory equipment that emits ultraviolet radiation include: ozone generators, germicidal lamps, solar simulators, plasma etchers, UV curing systems, xenon flash lamps, tungsten halogen lamps, and mercury vapor lamps.

In order to reduce exposure to ultraviolet radiation the following controls must be followed:

1. The use of light-tight cabinets and enclosures is the preferred means of preventing exposure.
2. Never directly view a UV radiation source.
3. Keep exposure time to a minimum, and where the source is not enclosed or shielded, keep as far away from it as practicable.
4. Follow the equipment manufacturer's instructions. If the equipment uses interlocks, they must be operable.
5. Ensure personnel are aware of potential UV hazards by providing On The Job training.
6. UV radiation must be a selected hazard/control in the WPC Work Activity associated with the equipment.
7. Provide UV radiation warning labels on all UV source equipment.
8. Use proper personal protective equipment such as safety glasses or face shield to protect the eyes and a lab coat/gloves to protect exposed skin from burns.

For more detailed information, go to the following website:

<https://ehs.lbl.gov/resource/documents/radiation-protection/non-ionizing-radiation/ultraviolet-radiation/>

If you have any questions regarding use of ultraviolet radiation in your work area, please contact the ETA Safety Manager, Ron Scholtz at X8137.

