



## Safety Notice



Transilluminators.com - Smart shopping for smart scientists  
 www.transilluminators.com  
 P:(617)286-4632  
 E:sales@transilluminators.com

## Ultraviolet (UV) Safety Information

**CAUTION:** Utilizing proper safety techniques and protective tools when working with ultraviolet (UV) is vital as UV radiation can irreversibly damage the eyes and skin. Overexposure to ultraviolet light can place a user at an increased risk of health problems such as burns or reddening (erythema) of the skin or surface of the eye (photokeratitis), burns to the retina of the eye, so-called blue-light damage to the eye (photoretinitis) and damage to the lens of the eye that may bring about the early onset of cataracts.

Wavelength (nm)		Eye Damage	Skin Damage
100-280	UVC	Photokeratitis Photoconjunctivitis	Erythema Skin Cancer
280-315	UVB	Photokeratitis Photoconjunctivitis Cataracts	Erythema Elastosis (photoageing) Skin Cancer
315-400	UVA	Photokeratitis Photoconjunctivitis Cataracts Photorectal damage	Erythema Elastosis (photoageing) Immediate Pigment Darkening Skin Cancer
380-780	Visible	Photorectal damage (Blue Light Hazard) Retinal burn	Burn

\* Information gleaned from the Non-Binding Guide to the Artificial Optical Radiation Directive 2006/25/EC

### UV Light Sources:

UVP manufactures a variety of UV instruments, each of which can be divided into one of four UV wavelength categories described below. Consult the following data with regard to which safety precautions are required with your specific light source. Should further clarification be required, contact your local UVP representative.

#### **UVC - 254nm Shortwave UV (tubes are clear)**

Shortwave UV is the most dangerous of the UV wavelengths. It can cause arc-eye (photokeratitis) and/or burn the skin. Users of shortwave UV should **ALWAYS** protect themselves by wearing UV-blocking long sleeves, UV-protective gloves, a UV-protective Face Shield and any other UV-blocking clothing or equipment necessary to reduce UV exposure to the skin and eyes. Reflected UV is also dangerous and should be considered when wearing UV-protective eyewear while working over a reflective surface. On the light spectrum, shortwave UV is next to X-ray.

### **UVB - 302nm Midrange UV (tubes are white)**

302nm is also known as 310nm and 312nm by other manufacturers. Midrange UV should be treated with caution. Users of midrange UV lamps should **ALWAYS** wear UV-blocking long sleeves, UV-protective gloves, a UV-protective Face Shield and any other UV-blocking clothing or equipment necessary to reduce UV exposure to the skin and eyes. Reflected UV is also dangerous and should be considered when wearing UV-protective eyewear while working over a reflective surface.

### **UVA - 365nm Longwave UV (tubes are white)**

Longwave UV is at the less harmful end of the UV spectrum. However, it should still be treated with caution. UV-blocking long sleeves, UV-protective gloves, a UV-protective Face Shield and any other UV-blocking clothing or equipment necessary to reduce UV exposure to the skin and eyes should be utilized by the user while the 365nm light source is on.

### **UVA - 365nm Longwave BLB (tubes are purple)**

This type of UV is not harmful. It is commonly referred to as “black light” and is the type of UV used for readmittance into amusement parks or to check bank notes/invisible ink stamps/pen marks on property. These lamps are not dangerous unless the filter is damaged, in which case they should not be used.

### **Suggested Measures for Providing Protection from Occupational UV Exposure:**

- Provide UV-protective eyewear and make sure other areas of skin are not exposed to ultraviolet radiation (i.e. provide UV-protective equipment and clothing such as UV-blocking lab coats, gloves, etc.)
- Protect others by using UV-protective screens/curtains and restricting access to potentially unsafe areas where UV is in use
- Provide information and training on the proper use of UV-protective tools and techniques
- Display appropriate UV exposure warning signs
- Monitor and enforce the use of UV safety control measures
- If any workers are over-exposed to UV, provide medical examination and consider whether follow-up health surveillance is appropriate

*\* This information is taken from the HSE Guidance for Employers on the Control of Artificial Optical Radiation at Work Regulations (AOR) 2010.*

### **Other Sources of UV Safety Information:**

- HSE Guidance for Employers on the Control of Artificial Optical Radiation at Work Regulations (AOR) 2010. *Great British Health and Safety Executive.* (<http://www.hse.gov.uk/radiation/nonionising/optical.htm>)
- A Non-Binding Guide to the Artificial Optical Radiation Directive 2006/25/EC. *Great British Health and Safety Executive.* (<http://www.hse.gov.uk/radiation/nonionising/aor-guide.pdf>)
- Guidelines on Limits of Exposure to Ultraviolet Radiation of Wavelengths Between 180 nm and 400 nm (Incoherent Optical Radiation). *The International Commission on Non-Ionizing Radiation Protection.* (<http://icnirp.de/documents/UV2004.pdf>)
- Occupational Exposure to Ultraviolet Radiation. *US Department of Health, Education and Welfare.* (<http://www.cdc.gov/niosh/pdfs/7311009a.pdf>)

**UVP UV-Protective Equipment:**

- UV-protective Spectacles (Part Number 98-0002-01)
- UV-protective Goggles (Part Number 98-0002-02)
- UV-protective Face Shield (Part Number 98-0002-04)

*\*UVP does not sell lab coats or gloves*

**For further information, please contact UVP:**

<b><u>If you are in North America, South America, East Asia or Australia:</u></b>	<b><u>If you are in Europe, Africa, the Middle East or Western Asia:</u></b>
<b>Call (800) 452-6788 or (909) 946-3197</b> , and ask for <b>Technical Support</b> during regular business days, between 7:00 am and 5:00 pm, PST.	<b>Call +44(0) 1223-420022</b> , and ask for <b>Customer Service</b> during regular business days between 9:00 am and 5:30 pm.
<b>E-mail</b> your message to: <a href="mailto:info@uvp.com">info@uvp.com</a> or <a href="mailto:techsupport@uvp.com">techsupport@uvp.com</a>	<b>E-mail</b> your message to: <a href="mailto:uvp@uvp.co.uk">uvp@uvp.co.uk</a>
<b>Fax</b> Technical Support at <b>(909) 946-3597</b>	<b>Fax</b> Customer Service at <b>+44(0) 1223-420561</b>
<b>Write to:</b> UVP, LLC. 2066 W. 11 <sup>th</sup> Street, Upland, CA 91786 USA	<b>Write to:</b> Ultra-Violet Products Ltd. Unit 1, Trinity Hall Farm Estate, Nuffield Road, Cambridge CB4 1TG UK

**NOTE:**

**Local law / guidance may also apply in individual countries.  
Please check with your local Health and Safety Department.**