TECHNICAL INFORMATION

UV Mini Light Source

Catalog No. CUV100TS

INTRODUCTION

The CUV100TS was specifically designed for use with SIRCHIE's *KRIMESITE™ IMAGER,* but also serves as a fully portable, battery-operated shortwave UV light source for field and lab use. The light is equipped with one 4-watt germicidal bulb producing shortwave UV light at an approximate wavelength of 254nm. Four (4) alkaline batteries power the unit.

PROCEDURE

The light source is easily powered ON and OFF with the accessible thumb switch. It's compact size makes the CUV100TS the ideal companion for searching crime scenes with the *KRIMESITE™ IMAGER.* ***Note:*** *The CUV100TS is equipped with a brushed nickeloid shield to protect the lamp. This shield is not to be removed for use.*

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SPECIAL PRECAUTION: *Avoid the use of shortwave UV light (254nm) in the presence of visible blood-stains if subsequent DNA analysis is a consideration. Collect blood samples prior to shortwave UV exposure.*

BATTERY REPLACEMENT

1. Hold the unit so that the ON-OFF switch is facing you.
2. Using your index finger, slide the Battery Compartment Cover down and lift it out of the way (Fig. 1).
3. Remove old batteries and install new ones observing polarity (Fig. 2).
4. Replace the battery compartment cover.

FIGURE 1

FIGURE 2

LAMP REPLACEMENT

1. Twist the End Cap Retaining Screw counterclockwise and remove it (Fig.3).
2. Lift the free end of the End Cap. Lift and remove the brushed nickeloid lamp cover (Fig. 4).
3. Twist and remove the lamp (Fig. 5). Place a new lamp in the sockets.
4. Replace the End Cap and End Cap Retaining Screw.

FIGURE 3

FIGURE 4

FIGURE 5

MAINTENANCE

Other than replacing batteries and the lamp, the only other maintenance recommended is to keep the outer shell clean using a mild detergent solution. ***Note:*** *Should any other problems arise, contact the factory (Customer Service) for return authorization at (919) 554-2534.*

PRECAUTIONS: ultraviolet Radiation

The three areas of ultraviolet radiation are UV-C at 100 to 280nm, UV-B at 280 to 315nm, and UV-A at 315 to 400nm. UV-C is the shortest wave ultraviolet radiation and UV-A is the longest wave ultraviolet radiation.

The retina of the eye is not very vulnerable in the ultraviolet or the far-infrared portions of the spectrum. It is the cornea and the lens that absorb ultraviolet. High exposure levels can permanently damage these structures of the eye. Intermediate levels in the UV (200-320nm) cause greater injury to the cornea, which is severe but temporary. The injury, photokeratitis, may last for only one or two days but is extremely painful. Near-ultraviolet (long wavelength UV-A) is absorbed heavily in the lens of the eye. Damage to this area of the eye may not be evident for many years and may have lasting effects.

Human skin is also susceptible to radiation injury. This susceptibility occurs in the range of radiant energy present in the ultraviolet spectral region of 400-320nm. This type of radiation can cause severe sunburn. Certain photosensitizing chemicals greatly increase the sensitivity of the skin. Previous exposures to specific wavelength bands that are generally in the long wavelength ultraviolet and visible portion of the spectrum also sensitize the skin. Some orally administered drugs such as tetracyclines and common pain relievers also cause photosensitization.

The factors predisposing individuals to possible harm from ultraviolet radiation are:

- Sensitivity of the individual
- The length of exposure
- Intensity of the ultraviolet light source
- Light source/surface distance

Recommended Personal Protective Equipment:

- UV absorbing face shield or glasses with side shields
- Long sleeved laboratory coat or overalls
- Opaque cotton or garamid fiber gloves

SIRCHIE shortwave UV lamps utilize low-pressure mercury lamps, which emit radiation in the UV-C (254nm) spectrum. Any amount of exposure to these lamps should be considered hazardous and protective equipment for the eyes and exposed skin must be worn. When using any UV lamp, avoid needless exposure to radiation and turn the lamp off when not in use.

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