

Engineering Physics / C.E.D.T Research Hazards Safety Report

Detailed Hazard Report

Description

The study will employ Tungsten –Halogen Light sources which ranges in power from several watts (3-5 watts) up to the use of some Halogen bulb which reaches 100 watts. The spectrum range of these light sources is starting in the **visible region (400 nm)** going through the **NIR region (850 nm)**. The visibility of the illumination that is used in our study make it less dangerous due to the blink reflex of human eye. The important thing that should be taken into consideration is that some of the Halogen bulbs may have some radiation in the near-UV region of spectrum, which means that long time effect will not good for eyes.

Operating Procedures

Fundamentally, this study is mainly concerned with the diffuse reflectance of light from the object, which means that the specular reflection is avoided. The experiment is always done in dark environment or pale light to avoid any noise from reflection from any other illumination sources on the object under study, that means care should be exist in looking into the path of light directly and to the specular reflection (less important as we are dealing with dull or unpolished surfaces).

Careful should be taken about other hazardous source, which is the Halogen source over heat. This illumination source that is using **100 watt bulb** may be very hot at its housing. One more thing this bulb pulls about 8 Amperes which is a high current, careful dealing with the power supply and connections lead to avoid any accidents.

Emergency preparation

In case of any accident, dialing **“88”** number is first priority, informing the supervisor with the details of what happened. The experiment should be terminated at once. All the plugs should be out from electricity and the instruments should be turned to the OFF position. An Accident Report should be completed and filed to be delivered to the department in the shortest time.