



Safety Corner

An Accident Related to the Model Eye Kit

This accident occurred in the demonstration room of a school. Round about six o'clock in the evening of that day when the accident took place, puffs of smoke were observed to emerge from the vent of the door of the demonstration room. When the door of the room was opened, it was found that the whole room has already filled with smoke. The smoke came from a smouldering blackout curtain which overhung the tall window in the room. Half of the curtain had burnt. The fire was quickly put out.



The accident was due to leaving the model eye kit on the wooden window sill. The kit consisted of a large round-bottomed flask filled with water dyed by fluorescein. Three convex lenses were affixed on the surface of the flask. As the window faced west, the curtain in the afternoon of that day was fully drawn out so as to shelter the room from the hot dazzling afternoon sun rays. The kit was then behind the curtain. It was due to the converging action of the flask or the convex lens(es) and the flask together that brought the sun rays onto focus on a tiny spot on the window sill. Given sufficient time, the amount of heat accumulated would cause the temperature of the wood to rise above its ignition point. A small fire was thus set up there. This in turn set the curtain on fire, since the curtain hung very low with its lower end almost touching the window sill. The curtain was made of fire-proof material so that it only smouldered.

It is a rather unexpected happening. It is difficult to imagine that the model eye kit, which is made of glass, can start a fire. Nevertheless, it serves to remind teachers and laboratory technicians that a negligence, no matter how small it is, can result in an accident. It also reminds laboratory users that it is unwise to leave apparatus like the model eye kit and convex lenses etc in places where they are liable to be illuminated by sunlight, which will be focused to cause a fire accident.

