



The University of Akron  
College of Polymer Science  
and Polymer Engineering

Office of Operations - Safety Office

# LESSONS LEARNED

## September 2017 – Multiple Fire Near Misses

### What happened?

1. UV exposure experiment placed on top of combustible black paper intended to absorb the stray light, was left unattended for only 15 minutes and initial stages of smoldering began. The experiment was set up outside of a hood without a UV light protection box with the power of the UV lamp underestimated by the researchers.
2. Portable heater left running unattended. Power draw from the heater on the outlet too much and melted the plug into the outlet. If not found by safety, would have eventually started a fire.
3. Not associated with #1, a UV curing box made from combustible material, without UV protected box was found by Safety. No immediate threat of fire, but the potential was there. This was also completed outside of a hood in a room intended for storage with no sprinkler system.



### What was the cause?

1. Underestimation of the UV lamp power due to the UV lamp being new equipment.
2. Portable heater needed more power than outlet could provide.
3. Unsafe UV curing box made with combustible material.

### What went right?

1. The smell was recognized as something burning and safety officer was contacted immediately.
  - a. The researchers were experienced and trained on UV experimentation.
2. Safety Officer and EOHS personnel make frequent rounds to look for unsafe actions in CPSPE buildings.
3. No immediate threat from experiment.

### What went wrong?

1. UV lamp was new equipment and researchers not aware of UV potential.
  - a. Experiment was set up in unsafe location due to accessibility of a 220 outlet.
2. Portable heater left running while unattended.
3. Experiment set up was a fire risk and located in an unsafe location.

### What corrective action was taken?

1. Researchers working with machine shop to build appropriate UV box and Safety Officer is finding a safer location with a hood for the experiment. UV Radiometer is being used to estimate the UV dosage and black UV absorbing paper is being replaced with UV absorbing acrylic sheet.
2. Heater has been removed and safety awareness email sent to CPSPE.
3. Combustible box has been removed, and group given the option to seek out alternatives with machine shop.

### How can incidents like this be prevented?

1. Learn all of the functions of new equipment.
  - a. Seek out the Director of Operations and/or Safety for new experiment/equipment needs and risk assessment.
2. Remove all portable heaters from CPSPE. It is against the Ohio fire code and the air temp is returning to normal.
  - a. If used at home, do not leave heaters running while unattended or sleeping.
3. Please seek out the Safety officer with handmade experiments for risk assessment. If the experiment works, it does not mean it is done in the safest manner.

**ASK QUESTIONS! Think about Safety first and utilize your safety officer and EOHS department.**

### Resources:

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Office of Environmental & Occupational Health and Safety

330-972-6866

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