

HAZARD ALERT

Subject: Fire in Workshop Paint Booth

Incident Date: February 06, 2017

Incident Summary

A Student was working on a project in a workshop paint booth with the mechanical ventilation system operating. The student removed the model from the booth and upon returning to the booth observed 1-2' high flames coming from under the grating. The student notified the workshop manager who expended a 20 lb. ABC fire extinguisher however the extinguisher was not able to extinguish the fire. The door to the paint booth room was closed at which time the building fire alarm activated followed by activation of the paint booth sprinkler head which extinguished the fire.

Injuries and Equipment Damage

There were no injuries as a result of the fire. The fire damage was contained to the paint booth and consisted of burnt paper filters under the grating, melted/burned ceiling filters and the replacement of the sprinkler head was required. The workshop experienced minor flooding from the activation of the sprinkler head which also migrated into an adjacent shop.

Immediate and root cause(s):

Upon investigation by the workshop technicians, Environmental Health and Safety, Emergency Management and the Calgary Fire Department the fire was determined to have been ignited by spontaneous combustion of linseed oil saturated paper towels. The linseed oil was brought into the booth by a student(s) without approval of the workshop manager. Once ignited, the paper filters installed under the work area grating fueled the fire. A contributing factor to the delay in activation of the sprinkler head may have been paint residue coating the sprinkler head.



Corrective Actions:

1. The use of linseed oil is strictly prohibited due to its volatile nature and risk of spontaneous combustion.
2. All chemicals brought into the workshop must be approved by the Workshop Manager
3. Combustible products shall not be part of the paint booth controls (i.e. paper filters) or stored in the paint booth.
4. Inspections of the paint booth to be performed and logged monthly or more often as required.
5. Enforcement of the use of flammable storage containers for waste rags.
6. Ensure all workshop users know the location and use of emergency equipment, particularly fire extinguishers and pull stations.

References:

<http://www.nfpa.org/news-and-research/fire-statistics-and-reports/fire-statistics/fire-causes/chemical-and-gases/spontaneous-combustion-or-chemical-reaction>