

Environment, Health and Safety Hazard Alert

Title: Bunsen Burner Flash Fire

Audience: Lab PIs & personnel

Incident Summary:

Lab personnel prepared a workstation to pour agar plates which involved the use of a Bunsen burner. When lighting the Bunsen burner, a large flash fire occurred igniting a paper towel with residual amounts of ethanol in a nearby trash bin. Lab personnel used a fire extinguisher to put out the fire. Campus Security, Life Safety, and the Calgary Fire Department (CFD) attended the scene. CFD assessed the area and deemed it safe. Lab personnel was not injured.

Investigation Findings:

- The tubing to connect the Bunsen burner was too wide for the burner nozzle.
- The mismatch of the tubing was improperly addressed by wrapping the nozzle with parafilm instead of replacing the tubing.
- The improper fit of tubing to the nozzle resulted in a gas leak at the connection which ignited when the burner was lit.
- Lab personnel did not notice the improper fit of tubing and the gas leak at the connection when inspecting the burner setup.

Actions Taken:

- Bunsen burner tubing was replaced with one that has a proper fit to the nozzle.
- A written Standard Operating Procedure (SOP) was prepared and used to retrain lab personnel on how to work safely with a Bunsen burner.
- Working with Bunsen burner was included as task in hazard assessment and SOP, and properly sized tubing were included as controls.

Key Takeaways:

- Ensure a proper fit of tubing at all connections without the need for aids such as parafilm.
- Always inspect tubing and check all connections for leaks prior to lighting the Bunsen burner.

Resources:

- UCalgary Standard Operating Procedure [Standard](#) and [Template](#)

