



UNIVERSITY OF OREGON



## EH&S and the UNIVERSITY FIRE MARSHAL

# LABORATORY FIRE SAFETY

Effective: January 15, 2019  
Revised: March 05, 2019

## GOALS

- Participants will be able to identify the fire safety hazards present on university laboratories, and understand their potential for personal injury and property damage.
- Participants will be able to minimize the risk, and negative impact of fires, by becoming familiar with established safety practices, and working safely in university laboratories.

## ROLES AND RESPONSIBILITIES

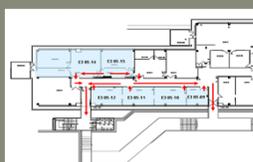
- Faculty, lab managers, employees, and students working in UO laboratories must be familiar with their roles and responsibilities:

- Emergency Evacuations
- Fire Protection Systems
- Safe Lab Work Practices
- Personal Protective Equipment
- Improving Fire Safety



## SITUATIONAL AWARENESS

- Be aware of your surroundings:



## EMERGENCY EVACUATIONS

- To meet its goal, evacuation planning must be site, and hazard specific.
- Everyone working in the labs must be familiar with emergency procedures, reporting protocols, and fire alarm systems.



## FIRE PROTECTION SYSTEMS

- Various types of automatic fire detection, notification and suppression systems exist in all labs.
- Portable fire extinguishers of different types are also available.
- All fire protection systems must be operated properly to guarantee worker safety and system effectiveness.



## IMPROVING FIRE SAFETY

- Because responsibility for fire safety in UO laboratories resides at all levels, faculty, lab managers, employees and students are encouraged to give recommendations to improve fire safety.



## SAFE LAB WORK PRACTICES (cont.)

- Avoid storing chemicals in the workspace within a laboratory hood, except for those chemicals currently in use.



## SAFE LAB WORK PRACTICES (cont.)

- Results of a small hood fire.



Suspected Cause:  
A small squirt bottle of Acetone was warmed by an open flame. Causing the pressure to rise and acetone to squirt out. The Acetone vapor and liquid ignited on the flame, melting the plastic tray.



## SAFE LAB WORK PRACTICES (cont.)

- Observe at all times all precautions regarding the storage of incompatible chemicals.



## PERSONAL PROTECTIVE EQUIPMENT

- Wear proper personal protective equipment (PPE) when working in the lab.



## FLAMMABLES CABINETS



- Designed for flammables only.
- Keep the vent closed and do not make new holes in the cabinet.
- Approved cabinets meet the 30 minute fire barrier.
- The bottom acts as secondary containment in case of spills

## LAB SELF-ASSESSMENT FORM

- 2: Fire Extinguisher Training
- 19: Unobstructed Access to Extinguishers
- 31-33: Egress paths (36") aisles(28") circuit breaker panels (30") and sprinkler heads (18") are unobstructed.
- 42: Less than 10 Gallons of flammable liquids stored outside a cabinet.
- 43: Only use approved refrigeration units for storing flammable liquids
- 44: Separate flammable materials from oxidizing materials. Basic segregation.

[https://safety.uoregon.edu/sites/safety1.uoregon.edu/files/lab\\_self\\_assessment\\_form\\_0.pdf](https://safety.uoregon.edu/sites/safety1.uoregon.edu/files/lab_self_assessment_form_0.pdf)

## SUMMARY

- This presentation covered some of the chief concepts about basic laboratory fire safety:
  - Emergency Evacuation Procedures
  - Fire Protection Systems
  - Safe Lab Work Practices
  - Personal Protection Equipment
  - Improving Fire Safety

THE END – ANY QUESTIONS?

