



August Safety Topic of the Month

FIRE SAFETY – Water Reactive Chemicals

A small chemical fire occurred recently in one of the labs. The chemical reacted with moisture in the air and ignited sending a spark onto a paper sign taped to the lab bench. The sign and a nearby lab notebook ignited. A fire extinguisher was used to extinguish the fire.

Lessons Learned

- 1) All fires must be reported to Police Dispatch at 874-2121, even fires that have been extinguished. For fires that have been extinguished, the Fire Department can use specialized equipment such as thermal imaging systems to evaluate the area to confirm that the fire has been fully extinguished, has not spread and will not reignite.
- 2) Use water reactive chemicals under an inert atmosphere in a glove box or other method that reduces exposure to moisture in the air, particularly during the humid months of summer.
- 3) Keep combustible materials such as paper and lab notebooks away from operations involving reactive and flammable chemicals
- 4) Personnel who may be using fire extinguishers must be trained in their use.
- 5) Contact the Fire Safety Inspector, Joe Mulcahey at 874-7994 immediately after the use of a fire extinguisher to request a replacement extinguisher.

Discussion Topics

- 1) Review lessons learned above
- 2) What types of water reactive chemicals are used in the lab and what safe handling precautions are in place for their use?
- 3) Where are fire extinguishers located and which personnel are trained in their use?
- 4) Review location of safety showers, fire alarm pull stations, evacuation routes and assembly points
- 5) Conduct a table top training exercise or drill to practice response to chemical fires.

References

Prudent Practices – Laboratory Chemical Safety Summary: Lithium Aluminum Hydride

Ohio State University - Sample Water Reactive Chemical Standard Operating Procedure
(http://pharmacy.osu.edu/safety/pdf/chemhygiene_sop_waterreact.pdf)