RISK MANAGEMENT	SAFETY SAFETY	RT Spill
Date: Category: RMS Contact:	June 2016 Laboratory Fire Andy Welding, welding.1@nd.edu	

Incident Description

On May 31, 2016, a chemical fire occurred within a solid waste container located in a laboratory hood. A post-doc was disposing of 1-3 grams of what he believed was quenched sodium borohydride from a round bottom flask. The sodium borohydride reacted with acidic material in the waste container releasing hydrogen. Flames immediately shot from the waste bucket and continued to burn following the initial flare-up. The post-doc yelled "fire" and another post-doc used an FE-36 fire extinguisher to extinguish the burning material. The bucket was then removed to another fume hood.

There were no injuries as a result of this fire.

Findings

- Sodium borohydride quench was not complete.
- Researcher had only quenched sodium borohydride once or twice before.
- Researcher scaled up the quantity of sodium borohydride but did not review with PI.
- Lab personnel were wearing appropriate PPE while working in the lab.
- Researcher used water and methanol to quench so-

Root Causes

- Improper quenching method used.
- Personnel not trained in quenching, and failed to ask about proper quenching methods .

Recommended Actions

- Make personnel aware of need to call either 911 or (63)1-5555 immediately after using a fire extinguisher.
- Make personnel aware of proper quenching of reactive chemicals, such as sodium borohydride.
- Review procedures and literature and/or consult with more experienced personnel when new or significantly increased quantities of reagents are used in the lab.



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