

Worker Fatality Alert

April 2009

Laboratory Research Assistant Dies of Burns From a Pyrophoric Chemical

Prevention Points

- Train and supervise all researchers and staff on the proper procedures for using pyrophoric chemicals
- Consider using other chemicals that are not spontaneously flammable in air
- Track the purchase and use of pyrophoric chemicals

The **California Fatality Assessment and Control Evaluation (CA/FACE)** program tracks and investigates cases of fatal injuries at work, and makes prevention recommendations for employers and employees. CA/FACE is investigating the death of a research assistant who was working in a biochemistry research laboratory at a major university. The research assistant was extracting t-butyl lithium from a reagent bottle. The chemical splashed onto her clothing and ignited, causing serious burns. T-butyl lithium is one of a class of chemicals that are spontaneously flammable in air (pyrophoric).



Recommended procedure for extracting pyrophoric chemical from reagent bottle.
[This is not the actual worksite or victim in this case]

The research assistant had recently graduated from a local college and was working for the year while applying to law school. She was working in the laboratory over the December holiday break when the incident occurred.

The specific actions and conditions that led to this incident are still under investigation. As an immediate step to prevent future incidents, employers should ensure that safe work procedures are followed by all researchers and their staff when they are using pyrophoric chemicals. When possible, consider using chemicals that are not pyrophoric as this will decrease the risk of a serious injury if an incident occurs. Employers should also consider implementing a chemical purchasing and usage tracking system. This will help keep track of where pyrophoric chemicals are used so that compliance with training and supervision can be ensured.

Guidance on the safe use of pyrophoric organolithium reagents is available from the University of California, Riverside:

http://www.ehs.ucr.edu/resources/SOPs/standard_operating_procedures_list.html.

[This is provided as an example only and has not been endorsed by the California Department of Public Health]

A complete investigation of this incident is underway by the CA/FACE program. The final report will be available at <http://www.cdph.ca.gov/programs/ohb-face/Pages/FACEReports.aspx>.

The Occupational Health Branch in the California Department of Public Health is devoted to improving worker health and safety through prevention activities.
See <http://www.cdph.ca.gov/programs/ohb>