

BACK TO SCHOOL SAFETY ALERT



U.S. Chemical Safety and Hazard Investigation Board

TOPIC: Hazards of Lab Demonstrations

Educational demonstrations involving flammable materials are often performed at schools or museums to engage students and visitors and stimulate their interest in science. These demonstrations typically use methanol or other flammable liquids as a fuel for combustion. In response to three separate incidents that injured both children and adults over an eight-week period in 2014, the U.S. Chemical Safety Board issued a safety bulletin titled, "Key Lessons for Preventing Incidents from Flammable Chemicals in Educational Demonstrations." With the start of a new school year, educators should familiarize themselves with The CSB safety bulletins and adopt the key lessons in order to avoid future serious incidents.

"Demonstrators should prepare by asking themselves, 'What could possibly go wrong here?' and 'Is the benefit worth the risk?'"

**– CSB Board Member
Kristen Kulinowski, Ph.D.**

The CSB has identified a number of lab demonstrations involving flammable materials which have resulted in fires and injuries. Methanol, the hazardous chemical involved in all three of the incident identified by the CSB, is classified as a highly flammable liquid, and users should adopt strict safety controls. The CSB has issued Key Lessons to prevent future lab incidents from occurring.

Key Lessons to Prevent Future Lab Demonstration Incidents:

- > Do not use bulk containers of flammable chemicals in educational demonstrations when small quantities are sufficient
- > Implement strict safety controls when demonstrations require handling hazardous chemicals – including written procedures, effective training, and the required use of appropriate personal protective equipment for all participants
- > Conduct a comprehensive hazard review prior to performing any educational demonstration
- > Provide a safety barrier between the demonstration and the audience



"It is our hope that our lessons will be more widely adopted so that during this upcoming school year no one is injured during classroom demonstrations."

**– CSB Chairperson
Vanessa Allen Sutherland**

Additional Resources:

<http://www.csb.gov/key-lessons-for-preventing-incidents-from-flammable-chemicals-in-educational-demonstrations/>