“The Rainbow Experiment” Movie Trailer
https://vimeo.com/250541567
Sister Patricia Wolf, president of St. Catharine's, a private school with annual tuition rates near $9,000, said the teacher was conducting a flame experiment and the flame apparently got too large. Wolf said there were no hazardous materials involved and the teacher's actions were not believed to be reckless.

The teacher, a man who has been on the faculty for about three years, was distraught after the accident, Wolf said.
Chemistry experiment goes awry, injures students

This chemistry fire demonstration has repeatedly burned students

Students burned, scarred for life

"This was an experiment in a science book, so this is routine. She had been doing it (this experiment) all day in other classes," said district spokeswoman Diane Turner.
Rainbow Fire Halloween Jack-o-Lantern
Anne Helmenstine • 987K views • 5 years ago
Is a regular carved Halloween jack-o-lantern too tame for you? Or are you looking for the perfect flame test chemistry demonstration.

5th grade science project rainbow flame
Andy Bethify • 2.3M views • 6 years ago
Fun with chemicals.

Colored Fire Rainbow
Anne Helmenstine • 60K views • 6 years ago
Use common household chemicals to make a colored fire rainbow. This is an easy home chemistry project that yields colorful results.

How to Change the Color of Your Campfire
Reported Incidents with Injury in Schools, Museums, & Outreach Activities Involving Solvents 1998 - 2018

Number of Incidents Reported

Year


YouTube Launched
Color and Light Released
After the Rainbow CSB
That day, Mrs. Pratt brought her 11-year-old son, Sam, to class. After a short lecture, she asked everyone to gather around her desk.

Cecilia and Calais stood about 6 inches from the porcelain dishes where they would have the best view. Someone dimmed the lights and then Sam, with his mother's permission, dropped lit matches into each.

Red. Orange. Yellow. He moved from left to right and when he reached the third or fourth, Sam noticed the red flame wasn't burning as high. Mom, he said to Mrs. Pratt, the red one is going out.

Mrs. Pratt lifted a gallon-sized jug of methanol -- wood alcohol -- out of a nearby sink. Calais and Cecilia said Mrs. Pratt told the class she probably shouldn't pour the methanol into the dish because it could catch fire, but she did anyway.

Whoosh!
To this day, Weber is unsure exactly how many people her story has influenced. She told of receiving a message on Facebook from a student who was a grade behind her at Western Reserve Academy at the time of her injury.

This student was seeking advice on how to approach a college chemistry professor about her concerns over lab safety, upset at having heard the professor excitedly tell the class, “Chemistry is fun! You can make things explode!” Weber said that, hopefully, in light of her story, people are “spreading the word of lab safety.” October 04, 2011
Sean Breheny 4 years ago
I think that this exact type of accident is quite common. I had a chem teacher in high school who did the same thing (demo on the color of flames, done on her desk, she tried to pour a little bit more fuel into one of the burning bowls) except in her case, there was no explosion, she dropped the jug of fuel, which I think was ethanol, and fire spread all over her desk. She was able to put it out quickly. None of the students were very close to the desk during the demo. My teacher was very competent and generally extremely Read more

Kovarian 3 years ago
One of the very first things you learn in lab safety is that you pour from the smallest possible container. It's one of the most basic safety rules. Also, as the poor woman said, should have been under a fume hood, the crucibles should have been far apart, the jug of methanol should have been in the storage closet with a small amount in a beaker or bottle in case it was needed. Everyone should have been wearing all their PPE. You shouldn't be pouring any methanol at all, the amount you need should already be measured and Read more

John Maynard 2 years ago
This same accident just happened in Fairfax County VA this week. People never learn. What kind of training are these teachers getting in University???????????? Totally unacceptable.
Duality - Brad & Autum
FLAME JETTING

The Science of Flame Jetting

How can a container of flammable liquid suddenly jet flame like a blowtorch when it encounters an ignition source? Why do so many people, many of them children, continue to be injured in these incidents? And how can a simple, inexpensive device protect against this hazard?

BY ADAM ST. JOHN, P.E.

https://www.acs.org/content/acs/en/pressroom/reactions/videos/2018/small-bottle-huge-fireball-how-flame-jetting-works.html
Duality - Brad & Autum

https://www.youtube.com/watch?v=xFStAEt4_2o
If you are going to perform high risk demonstrations or experiments...

You might want to be prepared to answer that question
Playing with Fire: Chemical Safety Expertise Required

Samuelia B. Sigmann* Appalachian State University, Boone, North Carolina 28608, United States

J. Chem. Educ., Article ASAP
DOI: 10.1021/acs.jchemed.8b00152
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https://pubs.acs.org/doi/10.1021/acs.jchemed.8b00152
Chemjobber @Chemjobber · 23 Oct 2014
More people have been injured by methanol fires in American classrooms than have died of Ebola in the US in 2014.

Chemjobber @Chemjobber · 3 Sep 2014
Hey, look, more kids injured in a methanol fire demonstration: rgj.com/story/news/201... NOW, can we stop doing it?

Chemjobber @Chemjobber · 26 May 2017
Now can we stop doing alcohol fires in schools?

Via the DCHAS list, another alcohol accident:
abc7ny.com/education/stud...

#chemsafety

Student burned after chemistry lab experiment explodes
The incident happened during an outdoor lab session at Perth Amboy High School during an eighth period chemistry class.
PRE-SERVICE TEACHER EDUCATION

• A working knowledge of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) which facilitates understanding all chemical hazards (physical, health & environmental).

• Ability to perform a risk assessment based on the RAMP principle – Recognize, Assess, Minimize, and Prepare for Emergencies.

• A working understanding of inventory management

• A thorough understanding of flammable solvents and combustion

• Ability to read and understand a SDS

• A working knowledge of PPE

• A fundamental understanding of hazardous waste management

• Hands-on experience with common demonstrations and experiments including practice with identifying hazards and assessing risk.
• American Chemical Society
• National Fire Protection Association
• Chemical Safety Board
• National Science Teacher’s Association
REMINDERS ABOUT WORKING WITH FLAMMABLE LIQUIDS

• Flammable liquids can be handled safely if they are handled properly. Flammable liquids are dangerous when mishandled.

• Users do not deliberately cause fires and explosions. On most occasions users are unaware of the severity of the hazards. Miss-handling [sic] is typically the result of a lack of knowledge, not willful destructive intent.

• It is users’ responsibility to continuously strive to become better informed, and more adept at identifying and controlling hazards.

http://www.roberts-roberts.com/documents.htm
COMING SOON: This section of our web site will be dedicated to stopping the use of chemical demonstration.

These liquids with an almost invisible flame. If the instructor mistakenly believes the flame went out and then p
flaming liquid ten feet or more. The American Chemical Society (ACS) has released a video that explains flame

This ACS video was made in collaboration with a number of groups committed to helping prevent flame jetting
Congressman Mike Thompson, ATF Fire Research Laboratory, Fairfax County Fire and Rescue Department, A
Fuel Container Manufacturers Association (PFMA).

We have documented dozens of incidents involving over 100 injuries (some severe) to students from the elemen
globe. These are NOT accidents. They are a completely foreseeable outcome of using an outdated teaching tool
Here is some background to give you an idea of the scope of the problem:

- CSB Releases Safety Message on Preparing Accidents in High School Chemistry Labs
- Safety Alert: The Rainbow Demonstration (ACS) seeks to prevent additional burn incidents
- School Experiment That Burned Boy Was Focus of Federal Warning
- This chemistry fire demonstration has repeatedly burned students
- Fire from rainbow demo injures five students in Virginia Safety Alert: Do Not Use Methanol-Based Flam

Thanks to the efforts of the American Chemical Society (ACS) and other groups, the top hits on Google search
make even a cursory attempt to look up the necessary safety precautions for such demonstrations. We need ever
demonstrations once and for all.

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