

Lessons NOT learned: I'm sad to report that there's been another school demonstration using the rainbow experiment that resulted in very serious injuries. 5 students in Virginia were seriously burned.

PLEASE HELP STOP THIS TREND!

Over the past few years, I've sent out several reports of burns caused by demonstrators not following basic safety guidelines while performing this experiment. I'm happy to say there hasn't been any incidents from this experiment on Long Island. I've included all sorts of safety guides for this demonstrations from many different sources. Please pass them on to everyone of your fellow teachers across the country (some links in the story below). Play the "After the Rainbow" CSB video at the beginning of the year for all of your teachers. <http://www.csb.gov/videos/after-the-rainbow/> AND NEVER, EVER POUR METHANOL INTO AN ACTIVE FLAME! Use a new set up. Remember, you may not see the flame.

More information:

<http://cenblog.org/the-safety-zone/2015/11/fire-from-rainbow-demo-injures-five-students-in-virginia/>

Posted By [Jyllian Kemsley](#) on Nov 2, 2015 in [Accidents](#), [Chemical Safety & Hazard Investigation Board](#), [Featured](#), [K-12 schools](#) | [0 comments](#)

On Friday, Oct. 30, five students and a teacher were burned in an incident involving the rainbow flame test demonstration at W.T. Woodson High School in Fairfax, Va. From [a student's description of the incident given to Fox 5 DC](#):

[The teacher] was demonstrating the experiment ... with the different elements causing the fire to change color, and as the fire was dying down she added more alcohol

Details are still sketchy, but [as we've seen many times before](#), most likely what happened was that the methanol supply or its vapor caught fire, flashed back into the stock container, and blew out toward the students.

Two of the Woodson students were airlifted to area hospitals; one was reported to be in critical condition on Friday. On Sunday, both were in fair condition, according to a MedStar Washington Hospital Center spokesperson. One of the students, Sonya Garvis, has serious burns to her arm and will need surgery in the coming week, [NBC Washington reported](#). The other three students were taken to a hospital, treated, and released on Friday. The teacher was treated at the school.

As long-time blog readers know, the [American Chemical Society](#) and [U.S. Chemical Safety & Hazard Investigation Board](#) have both warned against using flammable solvents, such as methanol, with this demonstration. A safer alternative is to soak wooden sticks in salt solutions and then burn the sticks in a flame. The National Fire Protection Association last year [updated its standard for laboratories using chemicals to include requirements for demonstrations](#).

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## NSTA: Chemistry accident Va. high school is reminder about classroom safety

By Dennis Foley

October 31, 2015 2:18 pm

**WASHINGTON** – A chemistry class accident that left five local students and a teacher injured **Friday** is an unfortunate reminder about classroom safety, the National Science Teachers Association tells WTOP.

“It’s very, very important, indeed critical for students to be able to actually experience the real thing,” Dr. David Evans, National Science Teachers Association’s executive director. Evans says that’s also the reason it’s important for experiments to be conducted safely.

“There are OSHA regulations for safety procedures,” Evans said. “The EPA has regulations for how hazardous materials are handled.”

**Friday** morning, a fire broke out during a teacher-led chemistry exercise W.T. Woodson High School in Fairfax County, Virginia. The students and the teacher were hospitalized with chemical burns and are expected to be OK. Half of the lab was damaged by the fire, smoke and water, WTOP reported.

Evans says the National Science Teachers Association has safety guidelines for working with chemicals in the classroom. “One would expect to see goggles, gloves, aprons,” Evans says.

And where the experiment is being done is also very important.

“If the experiment were being done with a volatile chemical like alcohol or something like that, we’d expect an experiment like that being done under a closed fume hood and not on an open bench,” Evans says.

But these safety reminders shouldn’t deter students and teachers from being hands-on in the classroom.

“It’s important for students to be able to conduct experiments and plan experiments,” Evans says. “And that’s true in chemistry or physics or biology.”

Here are 2 more stories on last week's fire involving the rainbow experiment. Please share with every science teacher you know!

The Virginia school system has now banned all open-flame experiments in all science classes, not just Chemistry. They will be conducting hazard & risk assessments for all their lab experiments. The incident was ruled an accident, and won't be facing criminal charges, but with the amount of information available on the risks of this experiment, I'm sure there will be substantial civil charges/penalties.

Have your school districts conducted a hazard & risk assessment for all science labs and demos? Don't wait until something happens.

There are two follow up stories of note about the Virginia school fire:

School system bans open-flame science experiments after accident

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This story includes the district's follow up steps, the ruling that the fire was accidental and reaction to the ban from NSTA, including a claim that "there's a growing expectation that college-bound students, particularly those who want to study science, have experience handling open flames in laboratories."

Va. high school chemistry lab fire raises safety concerns about 'rainbow experiment'

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This one discusses Calais Weber's ongoing efforts around this issue since the fire she was involved in 2006