

CLOSE ENCOUNTERS OF THE LAB KIND

THE SANTAYANA REPORT

George Santayana was a Spanish-American philosopher, essayist, poet, and novelist. In 1905, he penned the famous aphorism “those who cannot remember the past are condemned to repeat it.” More than a century later, the saying reverberates with professionals the world over. The following is a summary of a recent incident at Columbia University. The information presented is intended to provide awareness and help readers plan against the occurrence of a similar situation in their laboratory or work area.

Making a Splash: Safety Goggles or Safety Glasses?

Let's talk about safety goggles. Chances are you only wore goggles your first semester of General Chemistry at your undergraduate institution. Now, you're a graduate student, and to be honest, you're well passed freshman year hazing. The fogged lenses, the bright red mark on your forehead: Do researchers only view goggles as a sign of inexperience, a scarlet letter of beginner's work? If these are the factors that make you choose your eye protection, consider that goggles are the only kind of eyewear specifically designed for chemical splash protection. The safety glasses you rely on regularly for eye protection are designed to protect against impacts, but not necessarily a chemical splash. This will protect you if there is a spray of glassware, but it may not fully protect you if there is a spray of chemicals.



Recently at Columbia University, a graduate student wearing safety glasses added dry ice to ethanol too quickly, causing the ethanol to rapidly bubble up and splash the student in the face. The ethanol splashed around the safety glasses and into the graduate student's eyes! Ouch! Although the student sustained no permanent injury, the ethanol left a burning sensation for several hours. To further illustrate this point, a [2010 article from The SafetyZone](#) blog by C&EN offers a visual comparison of chemical splash protection for several different types of safety eyewear.

Some chemical work just requires a full seal around the eyes. Examples include working with very strong acids or bases, large volumes of hazardous chemicals, or reactions that generate gas, as with dry ice. Are goggles needed in your laboratory work?

Lessons Learned

- The graduate student treated the splash correctly, immediately using the emergency eyewash for 15 minutes and calling both Public Safety and Environmental Health & Safety.
- How can you protect your eyes in the lab? Consider the procedures you perform, and those performed around you. Goggles may be more appropriate than safety glasses for some of your work. Use the [Laboratory Assessment Tool & Chemical Hygiene Plan \(LATCH\)](#) to help determine when you may be better protected by a pair of goggles.
- There's hope on the horizon: The [ANSI/ISEA Z87.1-2010 standard](#) defines product testing criteria for chemical splash protection for protective eyewear. Look for the new “D3” insignia next to “Z87” the next time you pick out a new pair of eye protectors; it indicates that your eye protection has passed the chemical splash and droplet test.

For further information on this or any other safety related matter, please contact the [EH&S office](#).