

UC Monthly Safety Spotlight, August 2012

Laboratory Chemical Safety

By: Kitty

Careless Chris Sees How Important Protective Eyewear Is!

Summer had arrived, the weather was beautiful, and Chris had been working hard all week. At 4:50 in the afternoon on Friday, the main thing consuming his attention was his imminent vacation. Every year Chris took a week off and headed to South Lake Tahoe with his family and, after months of planning and anticipation, that week was due to start in less than 10 minutes. His bags were packed in his car and the only thing holding him back from his great adventure was a small chunk of time.

Chris had a few things left to finish up before leaving and, dismissing the small voice in the back of his mind that kept reminding him to pay attention to the details, made it his top priority to get through the remaining chores as quickly as possible. It was not, after all, impossible to do things both safely AND quickly, he rationalized as he glanced at the clock one more time. He had always taken the necessary precautions by using the right Personal Protective Equipment, and made sure he was up to date on safety training. His peers never thought of him as being careless or unsafe, and he was proud of that reputation.

As the last few minutes of the day started ticking down he cleaned up his work station and headed toward the entrance of the lab to gather his things and start his vacation. "At last!" he thought as he took off his safety goggles and tucked them into the glasses case on the lab wall. "I haven't had time off in a year and vacation is finally here!" About to peel off his lab coat at the very last minute, he realized he had not disposed of his chemical waste. He shrugged the coat back into place and headed toward the lab bench, then raised a hand toward his face as he walked, realizing he didn't have his safety glasses on. The idea to turn back and get them flitted through his mind but the urge to get done and get out was stronger and he figured he would be fine doing this one task without them. "I've done this a thousand times without anything remotely dangerous happening to me," he consoled himself. "Besides, I've got my labcoat on, so I'm in good shape."

Moving with the alacrity of the truly motivated, Chris picked up the final beaker full of ethidium bromide buffer, glanced around for the funnel, and couldn't find it at first glance. Growling a little with annoyance, he raised the fume hood sash all the way and reached in with the beaker. After taking a quick steadying breath, he attempted to dispose of the chemical by pouring it directly into the big hazardous waste carboy, but he misjudged the pour. Half of the clear liquid missed the opening, hit the top of the ten-gallon plastic container and splashed back up into his eyes. Screaming, Chris barely managed to set the beaker down rather than dropping it, covered his eyes and staggered back from the hood. Remembering that the first few minutes of chemical exposure are the most harmful to the eyes, he moved as quickly as he could toward the emergency eyewash station, blinking frantically with pain and barely able to see the lab walls through his blurred vision.

"What happened, Chris? Are you OK?" asked Belinda, a peer in the lab alarmed by his scream. Seeing he was having difficulty, she hurried over and helped him get to the eyewash station.

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Frustrated and embarrassed, Chris mumbled, “Nothing, really, just some buffer.” The water rinsed his face clean quickly and he only wanted to use the eyewash station for a minute. “I’ll be fine, really,” he muttered and tried to walk away. Luckily for Chris, Belinda was looking out for his best interests and reminded him of their lab safety training on how, in order to prevent further damage to his eyes, he needed to continue to flush them for at least 15 minutes. Although he was reluctant and stubbornly insisted he would be fine, Chris did as he was told, wishing the whole time that he was on his way to Tahoe instead. Belinda coached him through the fifteen minutes, keeping track and letting him know how much longer he had to go, then consulted the MSDS, called the emergency dispatch number, and alerted the lab supervisor. Even though it was past the end of the day on a Friday, she waited with Chris until the first responders arrived to escort him to the clinic.

After what felt like an interminable wait, the clinician informed Chris that his vision would be fine and the chemical burns to his face, while painful now, would eventually heal with minimal skin damage due to his rapid and prolonged flush in the eye-wash. Ruefully, Chris realized that the only difference between doing something unsafely without consequences and having it go terribly wrong was just random luck. As a result he’d suffered pain, embarrassment, and missed leaving on time for his vacation as well. When it was most important to not be delayed, his time-saving shortcut ended up costing him much more time than the task would have taken had he spent less than half a minute putting on his safety goggles.