

UC Monthly Safety Spotlight, September 2011

Laboratory Safety

Careless Chris Lets Texting and Other Distractions Cloud his Judgment

Fictitious employee Careless Chris recently had a first-hand opportunity to learn about personal risk management in the lab. He was a graduate student and was just finishing his first quarter in the chemistry department. Chris was not just enthusiastic about his role in the laboratory, he was passionate. His research group was working to optimize biofuels, which reflected his personal commitment to building sustainability and promoting a cleaner environment.

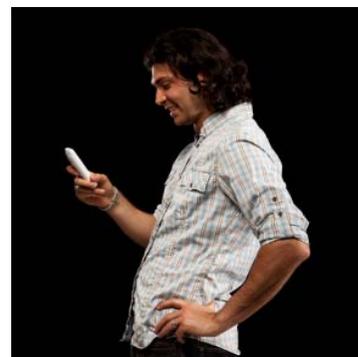
Chris was confident; he felt poised for success. He knew he had an awesome education and the right attitude about the work. He got along well with the senior post-doc and felt he was making a good impression on the professor. He had completed the required safety courses, even though he thought the presentations were patronizing for someone of his academic caliber. There was only one snag in his perfect scenario: his arch-rival in the lab, Melinda.

Melinda always seemed to be a step ahead. Her thesis was brilliant, her notebooks were exquisite and her laptop was the envy of everyone on the team. Careless Chris never managed to out-do her in any of the tasks they shared. She even drove a tiny, bright orange, electric powered car. He was green with envy.

But Chris had a plan. He resolved to go into the lab on Sunday and get a head start on an experiment to proof a new consumer biofuels production kit. The work would only take about six hours, but it would put him on the inside track once and for all. As he flicked on the lights and put down his backpack, he imagined how pleased the professor would be when he presented his data.

“First things first,” thought Chris. “I need some tunes to keep me focused.” He put on his earbuds and dialed up some old Blowfish tracks. Humming along, he went through his usual safety routine: lab coat, gloves, eye protection, tying long hair into a pony tail. He turned up the music and set to work, setting up the bulky apparatus that came with the kit outside of the fume hood. He titrated the waste vegetable oil, calculated the amount of sodium hydroxide he would need and added it to methanol. Chris put the beaker on a stir plate, covered it loosely with a watch glass and prepared to measure out the waste oil.

Chris was just reaching for the waste oil container to measure out the amount he would need, when he heard the friendly beep of an incoming text message through his earbuds. He continued trying to pour the waste oil with one hand while he pushed his glasses up onto his forehead so he could read the text—another co-worker complaining about Melinda. He smiled spitefully and began to text back, which was a challenge with only one hand. Since he was looking at the screen of his smart phone, he didn't notice the sleeve of his lab coat begin to pull over the beaker of sodium hydroxide and methanol.



Careless Chris never missed an opportunity to text his friends. But he learned a hard lesson when he began texting while he was working in the laboratory.

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The consequences were immediate. Horrified, Chris dropped his smart phone and saw the spill just inches away from his torso. His skin began to burn as the spill spread through his clothing, as he had not buttoned his lab coat. He panicked for a moment before remembering the emergency shower. Chris peeled off his lab coat and his contaminated shirt and as the water flowed over his reddened and exposed skin, he worried about permanent damage.

After managing to call 9-1-1, Chris found himself on the way to the emergency room. Fortunately, his exposure had not been long enough to cause permanent damage to his skin. He had to spend the next 24 hours in the hospital for observation, however, because he did sustain a nasty third degree chemical burn.

But Careless Chris was miserable. Not only did he fail to surpass Melinda with his expert lab performance, he knew he had taken a major step backward in everyone's eyes. His lab was closed temporarily for a safety review so work on the biofuels came to a stop. The professor was so busy dealing with the incident that Chris couldn't even reach her to apologize.

He had endangered his life and only barely escaped permanent injury. When the post-doc visited him, he reminded Chris of safety procedures he had neglected. To begin with, he was working in the lab by himself. He was working with hazardous materials at the bench instead of in a fume hood. Though he had put on his lab coat and other protective equipment, he neglected to button his lab coat and had removed his glasses for just a moment--all the time that was needed for an injury to occur.

Worst of all, Chris didn't actively focus on safety that Sunday morning. He didn't manage his personal risk by asking himself: "What could possibly go wrong here and how can I prevent it?" He had let himself be distracted by the music and the texts coming from his smart phone. He cringed with embarrassment when he thought of how he tried to actually text while performing an experiment. He remembered the safety courses and how simplistic they had seemed. During his recovery, Chris had plenty of time to reflect on the importance of safety training, no matter how well-educated you may be.