

# Laboratory Management

Volume II Issue IV

By Tim Govenor, Institutional Chemical Hygiene Officer

Fall Quarter 2002

## Publish or Perish?

“Put it in writing.” Publication of research work is one of the hallmarks of any major research institution. The documentation is mandatory. It enables others to review the methods, premises and experimental approaches and enables others to duplicate and validate the findings. Once peer reviewed and confirmed, the shared information can be applied and explored further. Publication leads to recognition, advancement and prestige, not only for the principal investigator but also for the department, college and institution. Without these publications, individual careers and institutional renown will “perish”.

In the sciences, research often involves the use of equipment and agents that present physical, chemical, biological and radiological hazards. Due to convention, research publications seldom include warnings, procedures or methods to assure safe use of the equipment or agents. Yet the safe use is as important to research as is the outcome of the research. Vice President for Research, C. Bradley Moore has expressed this thought in the following quote “The considerable care and thought required to work safely go hand-in-hand with the care and thought required to control experiments so that they produce reliable data and valid conclusions”. If researchers are not adequately trained in hazard recognition, risk assessment and equipment protocols the result can be damaged equipment, damaged facilities and personal injury or death.

Publication is necessary for reproducible results. Publication is also necessary for reproducible safe operations. A peer reviewed Chemical Hygiene Plan, which includes laboratory specific standard operating procedures for hazardous equipment and agents, is the publication of choice to meet this need. This documentation is legally mandatory. It will help assure that none will perish in our laboratories.

## New Bioterrorism Regulations set for Release

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002 calls for regulations to enhance controls on dangerous biological agents and toxins. The university has already responded to mandates to inventory and register such agents. The subject of the new regulations, to be released in the Federal Register on December 9, 2002, deals with the provision of safety measures that will include training on appropriate skills to handle the agents and facilities to contain and dispose of the agents. The regulations will also deal with appropriate safeguards and security arrangements for laboratories containing and for persons possessing, using or transferring the agent commensurate with the agent’s threat to public health.

The regulations are expected to be performance based. Existing University Biosafety policies will be reviewed and modified as necessary to meet the new requirements. The text of the document will be made available through internet links on the EHS website as soon as possible after December 9.

## Letter from a Post Doc Burned in a Solvent Fire

The author of the following letter is a former University of X graduate student now working as a post-doc at another institution. Identifying information including the names of the people involved and the name of the institution where the incident occurred have been changed.

Hey Stan,

I've been trying to email you for some time but the computer wouldn't let me through for some reason - hope we have better luck now. I wanted to tell you some news in the meantime - I was in a serious lab accident here in John's lab and was quite badly hurt. Before I relate the rest of the tale (it is quite frightening) let me assure you that I am basically OK, I'm not disabled or horribly disfigured or anything.

What happened is there was an explosion and fire in the lab in which I was actually set on fire and badly burned. Friday afternoon September 11th. This ?#%&\* lab technician was working at her bench with a burner going full blast; John and I were standing about 6 feet away. She proceeded to pour from a full one gallon glass bottle of methanol with the mouth of the bottle only a few inches from the flame. John and I stared in horror at the stupidity of the action; I took a few steps toward her as I told her to stop what she was doing and get the bottle away from the flame ASAP, about to give her the safety lecture of her life.

The whole thing exploded in my face; all I saw was a ball of blue flame as the entire bay was drenched with burning methanol. It was like I was hit by a flamethrower - I looked down and flames were coming from my chest and arms. The whole episode only lasted for 5 or 10 seconds before I got under the emergency shower (thanks to cool thinking by Sam Smith who basically saved my life). I was burned over about 20% of my body surface - a mixture of 1st, 2nd, and 3rd degree burns on my chest, left side, left arm and hand, right forearm, the front of my neck, and the bottom half of my face. The sprinkler system extinguished the rest of the fire. No one else was hurt - the person who was responsible left the next day for another position so I couldn't even have the pleasure of firing her.

I spent 10 days in the Hospital Intensive Care Unit, and had skin graft surgery to repair the worst of the burns. There are whole days of my time in the ICU that I have no recollection of, but what I remember was a nightmare.

But in the end I walked out of the hospital on my own two feet. The good news is the burns to my face and neck were very superficial so they healed up nicely and I'll have no scarring there - with a long sleeved shirt on you'd never know anything had happened to me (in fact I look even better after the accident - the facial burn was like having a chemical face peel, and I lost around 15 pounds in the hospital plus I have a new spiky punk haircut from when the ICU nurse cut away all of my burned hair, so people at first think I went to a spa or something). My chest and left arm are a different story - I'll definitely have some scarring there but its too early to tell what it will look like. Considering how easily I could be dead/blind/horribly disfigured I consider myself very, very lucky indeed. Five weeks after the accident I was back in the lab at work.

So now I preach lab safety to everyone I talk to. Tell your people to be careful with flammable solvents and remember what I learned the hard way - it doesn't matter how careful you are, someone else's stupidity can get you killed.

Dan

(Source: American Industrial Hygiene Association)