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From: kauletta <kauletta@notes.cc.sunysb.edu>

To: LABSAFETY-L <LABSAFETY-L@LISTS.SUNYSB.EDU>

Sent: Fri, Oct 21, 2011 9:18 am

Subject: Lessons Learned: Chemical Safety Board study on several university lab accidents & video

PLEASE SHARE THIS EMAIL WITH EVERYONE IN YOUR DEPARTMENT AND GROUP!

Lessons Learned: Its been a busy week in the lab safety 'world'. The US Chemical Safety Board released a video that covers 3 high-profile lab accidents - 2 deaths and 1 permanent damage. If you don't have time to read all the attached articles, please watch this video!

This video should be shown at every lab group meeting over the next few weeks!

One of the recommendations by the CSB was to ensure that there is a written standard operating procedure (aka protocol) with all hazards reviewed - physical hazards and health hazards - and the required safety training, PPE or other controls to do the work. The hazard assessment forms on the EH&S web site can be used for this:

- [Hazard Assessment and SOP Template](#)
- [Hazard & Risk Evaluation Matrix](#)

Another finding by the CSB and other investigators in these accidents was the lack of training and documentation of training by the PIs. This checklist was developed by EH&S to help PIs document the specific hazard training that needs to be done in each lab:

- [Lab Specific Training Checklist](#)

If you have any questions or need additional information on you lab work or any of the information in this email, don't hesitate to contact me.

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Remember to wash your hands!

----- Forwarded by Kim Auletta/Admin on 10/21/2011 08:58 AM -----

<http://www.csb.gov/newsroom/detail.aspx?nid=387>

“Experimenting with Danger” Focuses on CSB Case Study on Texas Tech University Accident; Laboratory Deaths at UCLA and Dartmouth

Washington DC, October 20, 2011 – The U.S. Chemical Safety Board (CSB) today released a new safety video on the potential hazards associated with conducting research at chemical laboratories in academic institutions.

The 24-minute video focuses on three serious laboratory accidents: the death of a lab research assistant in 2008 in a flash fire at the University of California Los Angeles (UCLA); a death by accidental poisoning of a highly regarded Dartmouth College professor in 1997; and a 2010 explosion at Texas Tech University (TTU) that severely injured a graduate student, who lost three fingers in the blast and suffered eye damage.

Entitled [“Experimenting with Danger”](#) the video notes that the CSB has collected preliminary data on 120 explosions, fires, and chemical releases at university laboratories and other research facilities that occurred around the country since 2001, causing deaths, serious injuries, and extensive property damage.

The video provides extensive information on the CSB’s investigation of the TTU accident and the resulting [case study](#). The report, issued during a webinar on laboratory safety yesterday and now available online at www.CSB.gov, includes six key safety lessons the Board believes apply to academia as a whole.

NATURE NEWS BLOG: US LAB SAFETY UNDER FIRE

http://blogs.nature.com/news/2011/10/us_lab_safety_under_fire_1.html

Tags: laboratory, explosion, death, follow-up

The United States' Chemical Safety Board (CSB), which usually investigates large industrial accidents such as refinery explosions, yesterday published its first ever report [pdf] into an accident in an academic lab. The study looks into a January 2010 accident at Texas Tech University in Lubbock, where graduate student Preston Brown lost three fingers of his left hand during a dangerous experiment. But the concerns it identifies spread wider than Texas Tech, and are relevant to anyone working in US chemistry laboratories – as Nature discussed after the death of Michele Dufault at Yale University in April.

Brown was grinding up chunks of nickel hydrazine perchlorate — using a hundred times the recommended amount — when it detonated. The CSB found numerous safety gaps leading up to the accident, and a “lack of organizational accountability and oversight” at Texas Tech. Even two previous near-misses in the department hadn’t led to changes in safety culture. (Texas Tech has made changes since the accident). The experiment’s funding agency, the Department of Homeland Security, is also criticized for not demanding specific safety provisions.

The incident raises wider issues, relevant to academia as a whole, the CSB says – concerns that have been widely discussed since 23-year-old research assistant Sheharbano Sangji died after a lab fire at the University of California, Los Angeles, in late 2008. As CSB chairman Rafael Moure-Eraso told a meeting of the American Chemical Society in Boston last year, “safety practices at US universities leave a lot to be desired”. The CSB has gathered information on 120 different university laboratory incidents since 2001, but that is likely only a fraction of the real number of minor incidents and near-misses never reported. It urges better documentation and communication, and asks for better guidance from bodies such as the

American Chemical Society on assessing hazards in chemistry labs. It points out that health and safety personnel should not be merely 'advisory' – they or their managers should have the power to make real changes.

CSB RELEASES NEW VIDEO ON LABORATORY SAFETY AT ACADEMIC INSTITUTIONS

<http://www.fireengineering.com/articles/2011/10/csb-releases-new-video-on-laboratory-safety-at-academic-institutions.html>

Tags: laboratory, explosion, injury, follow-up

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STUDENT INJURED IN CHEMISTRY LAB ACCIDENT

<http://www.marshallparthenon.com/student-injured-in-chemistry-lab-accident-1.2656169#.TqFLVWBSbqg>

Tags: us_WV, laboratory, release, injury, unknown_chemical

A student in Marshall's chemistry program was injured in chemistry lab Tuesday afternoon. The student was working in a research lab when he was accidentally splashed in the face with chemicals. "We still have to figure out exactly what went wrong, why it went wrong and all the rest of that," Michael Castellani, chemistry department chair, said.

The student was not working on something that normally would have happened in the class setting. "The greatest likelihood is this isn't something that involves, in a meaningful way, the teaching labs," Castellani said. "That is to say if you're a student in one of our freshmen labs or organic labs or something like that, this is not something you as a student would be doing."

Castellani said that he did not believe the student was wearing protective goggles.

The student was treated for minor chemical burns at Cabell Huntington Hospital and was released Tuesday night.

NEW CHEMICAL SAFETY BOARD REPORT COULD BE THE LAB-SAFETY TURNING POINT

<http://blogs.sciencemag.org/sciencecareers/2011/10/the-turning-poi.html>

Tags: laboratory, explosion, response, follow-up

In February 2010, we reported that the United States Chemical Safety Board (CSB) was undertaking its first-ever look at the safety situation in academic labs after one explosion critically injured and maimed a graduate student at Texas Tech University (TTU) and another, not long before, killed a technician at the University of California-Los Angeles. The following May, the lead investigator on that study, Cheryl McKenzie, told us that the TTU incident appeared to reveal "widely applicable" safety issues "that need to be explored."

On Wednesday, the CSB proved itself as good as its word by issuing an incisive, detailed, and wide-ranging report entitled Texas Tech University Laboratory Explosion. This groundbreaking document lays

out what went wrong at TTU; what it means for that institution -- and, by extension, for thousands of other institutions across the nation; and what needs to be done about the situation right away.

CSB RELEASES INVESTIGATION INTO 2010 TEXAS TECH LABORATORY ACCIDENT; CASE STUDY IDENTIFIES SYSTEMIC DEFICIENCIES IN UNIVERSITY SAFETY MANAGEMENT PRACTICES

<http://www.csb.gov/newsroom/detail.aspx?nid=386>

Tags: us_TX, laboratory, explosion, response, follow-up

Denver, CO, October 19, 2011 – The U.S. Chemical Safety Board (CSB) today released its final report into a January 7, 2010, chemistry laboratory explosion at Texas Tech University in Lubbock, Texas, recommending that the American Chemical Society develop new hazard evaluation guidelines for laboratories and calling on the Occupational Safety and Health Administration to issue a Safety Bulletin on the importance of controlling the physical hazards of chemicals in academic laboratories.

TEXAS TECH RELEASES STATEMENTS REGARDING RECENT EXPLOSIONS IN CHEMISTRY AND BIOCHEMISTRY LABS

<http://kfy.com/texas-tech-releases-statements-regarding-recent-explosions-in-chemistry-and-biochemistry-labs/>

Tags: us_TX, laboratory, explosion, response, unknown_chemical, follow-up

Texas Tech has released statements regarding explosions in their Chemistry and Biochemistry labs over the past two years.

The most recent explosion, which occurred Friday, October 14th of this year, took place in an unattended laboratory and no one was injured.

According to the University, the explosion occurred in a working laboratory hood, the building was evacuated, and the Lubbock Fire Department and its hazmat team responded, and cleaned up acid which had been sprayed across the floor of the lab as a result of the explosion. The building was reopened to faculty and students about two hours after the incident.

Texas Tech's Office of Environmental Health and Safety, as well as outside experts, are investigating the accident, and the laboratories involved in the projects where the explosion took place have been locked down.

UF SEES INCREASE IN CHEMICAL ACCIDENTS ON CAMPUS THIS SEMESTER

http://www.alligator.org/news/campus/article_fbe1b0e4-fae6-11e0-8db6-001cc4c03286.html

Tags: us_FL, laboratory, explosion, injury, follow-up

On Oct. 11, an explosion in a chemistry lab sent a student to the hospital with cuts on his face, hands and forearms. On Monday, Turlington Hall was evacuated after a toxic chemical was spilled in the basement. On Wednesday, fire trucks pulled up in front of Leigh Hall, a chemistry lab building, as it was evacuated because someone pulled a fire alarm.

Major Brad Barber, spokesman for the University Police, said this frequency of incidents involving chemical accidents is unusual.

The last incident formally reported to UPD was on May 19.

Bill Properzio, director of UF's Department of Environmental Health and Safety, said that with about 3,000 labs on campus, accidents are bound to happen from time to time, but there are usually only a handful each year.

FINAL REPORT RELEASED ON 2010 TECH CHEMISTRY LAB EXPLOSION|MYFOXLUDBOCK
<http://www.myfoxlubbock.com/news/local/story/Lubbock-Texas-final-report-chemistry-explosion/fpS9t9gbrUiVeICfwLaysw.csp>

Tags: us_TX, laboratory, explosion, response, acids, follow-up

The U.S. Chemical Safety Board releases a final report on an explosion in a Texas Tech chemistry lab that seriously injured a graduate student in January 2010.

Recommendations announced in a live webcast include expanding measures to address and control physical safety hazards and implementing an incident and near-miss reporting system. Texas Tech's Vice President for Research, Taylor Eighmy, says all of the agency's recommendations will be followed. He says since the accident, hundreds of previous deficiencies have been addressed. "The fact that we had 1660 in this department at that time suggests that there was a huge issue at play," Eighmy said. "We just went back earlier this year and went back through all the laboratories again in that department and we had 125 deficiencies. That's getting better. Much, much, much better. But it's not perfect." Dr. Eighmy said Friday's small explosion in another chemistry lab shows the need for continuing improvement. Tech released new details about that incident. According to a statement, employees of a chemical production company had been working in that laboratory, which was unoccupied at the time. The explosion sprayed dilute acids onto the floor, prompting a hazmat team response.

ACADEMIC LAB SAFETY UNDER EXAM
<http://pubs.acs.org/cen/government/89/8943gov1.html>

Tags: us_TX, laboratory, explosion, injury, follow-up

A fire at one university that led to a researcher's death and an explosion at another that seriously injured a graduate student are among several incidents in the past few years that have turned a spotlight on safety practices in academic chemistry laboratories.

Since 2001, more than 120 university lab accidents have caused injuries, millions of dollars in damages, and one death, according to the federal Chemical Safety & Hazard Investigation Board (CSB). In a report released on Oct. 19, CSB presents details of one of them—a Jan. 7, 2010, accident in a Texas Tech University chemistry department lab in which a graduate student lost three fingers on his left hand, burned his hands, and injured his eyes.

The Texas Tech investigation is CSB's first examination of an accident involving a university laboratory. But the board emphasizes that its recommendations are applicable to all academic research settings and could protect the more than 110,000 students and postdoctoral researchers working in hundreds of U.S. academic labs. Also, CSB last week released a safety video directed to researchers working in academic labs.

TECH'S UPDATE ON FRIDAY'S LAB ACCIDENT AND JAN 7, 2010, ACCIDENT IN CHEMISTRY AND BIOCHEMISTRY DEPARTMENT
<http://lubbockonline.com/filed-online/2011-10-19/techs-update-fridays-lab-accident-chemistry-and-biochemistry-department#.TqAEX2BSbqg>

Tags: us_TX, laboratory, explosion, response, acids, follow-up

This news release from Texas Tech about last Friday's lab accident in the chemistry and biochemistry department at the university:

At about 5:30 p.m. on Friday (Oct. 14), a small explosion occurred in Room 332 in the Chemistry and

Biochemistry Building on the Texas Tech University campus. The laboratory was unattended, no one was hurt, and the explosion occurred in a working laboratory hood. The building was evacuated. Lubbock Fire Department and its hazmat team responded and cleaned up the acid that sprayed onto the floor of the laboratory. The building was opened about two hours later.

The accident is being formally investigated by the Texas Tech Office of Environmental Health and Safety and outside experts. The laboratories associated with the work have been locked down to facilitate the investigation. The precise cause of the explosion is not known, but it appears to involve two large glass bottles, each reportedly containing dilute acids (one with nitric, one with acetic) that were adjacent to each other on the left side of the hood. There were two roto-evaporation apparatus on the right side of the hood that were not damaged, but the explosion did crack the base surface of the hood and scatter glass throughout the lab.

The laboratory was being used solely by employees of an organic chemical production company. This company has a contractual research relationship with a faculty member in the Department of Chemistry and Biochemistry. The laboratory hood where the explosion occurred was being used for an organic compound crystallization, but it appears that this reaction had no role in the explosion. The Texas Tech investigation of the accident will be released upon its completion.

TURLINGTON HALL EVACUATED AFTER CHEMICAL SPILL

http://www.alligator.org/news/campus/article_6e52219c-f94b-11e0-b27c-001cc4c002e0.html

Tags: us_FL, laboratory, release, response

A chemical spill in the basement of Turlington caused the entire building and the adjoining restaurants to be evacuated.

The building was closed for about an hour while UF Environmental Health and Safety employees cleaned up the spill.

Nader Abo Dya, 35, and Suvendu Biswas, 27, were combining chemical compounds in Room B115 when one of them dropped five grams of 2-Chloroethyl Isocyanate, a liquid compound that is combustible and moisture-sensitive.

The compound's uses range from chemotherapy treatment to the manufacturing of foams, paints and insulation materials, according to the Centers for Disease Control and Prevention. It can be harmful if swallowed, inhaled or absorbed through the skin.

REPORT FINDS FAULT WITH COLLEGE LABS OVER POOR SAFETY RECORD – [USATODAY.COM](http://www.usatoday.com)

<http://www.usatoday.com/tech/science/story/2011-10-19/college-lab-safety-chemistry/50818666/1>

Tags: laboratory, discovery, response, follow-up

An explosion that severely burned a Texas Tech graduate student last year suggests safety problems plague college labs nationwide, a federal watchdog agency warned.

A report released Wednesday by the Chemical Safety and Hazard Investigation Board (CSB), an independent safety agency, examines the Jan. 7, 2010, detonation at Texas Tech University in Lubbock that cost the student, Preston Brown, three fingers and caused severe burns and eye damage. Brown had set out to produce 10 grams of an explosive compound — 100 times more than an informal lab limit — for research sponsored by the Department of Homeland Security.

"The report serves as a cautionary tale for universities across the country," CSB's Daniel Horowitz says.