

Laboratory Management

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By Tim Govenor, Institutional Chemical Hygiene Officer

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Opinions are in for Chemistry 685

Chemistry 685, a two credit seminar course, was offered in its expanded format during the Winter Quarter. The course was coordinated by John Herrington, Safety Coordinator in the Department of Chemistry, and team taught by faculty, staff safety professionals and speakers from industry. Over twenty different aspects of laboratory safety were presented and students were familiarized with safety regulations that apply to the university and private industry. Over 100 students attended the course. The following summary is from course evaluation forms.

Statement	Agree Strongly	Agree	Neutral	Disagree	Disagree Strongly
The content of the course was appropriate for my lab work.	45%	36%	9%	9%	
The course content met my expectations.	27%	73%			
The course instructors meet my expectations.	36%	45%	18%		
I would recommend this course to other students.	45%	45%	9%		
I learned safety and health ideas that I immediately applied to my lab work.	27%	45%	9%	18%	
I am more confident that I can complete my research work without injury or illness.	27%	55%	18%		
The level of course material was appropriate.	27%	63%		9%	

Lab Standard Audit 101

To be in acceptable compliance with the Lab Standard, several elements required by the standard must be implemented.

1. Is a written Chemical Hygiene Plan (CHP) available for use by laboratory employees?
The plan is to be accessible by employees at all times.
2. Has general lab standard training been documented for each lab employee?
Generic training is met by attending the Lab Standard program, Lab Safety Course or Chemistry 685.
3. Has specific lab standard training been documented for each lab employee?
Specific training for employees includes familiarization with your CHP including, standard operating procedures, prior approval protocols and procedures in your lab for handling select carcinogens, reproductive toxins and substances with a high degree of acute toxicity.
4. Has a Chemical Hygiene Officer or Chemical Hygiene Committee chairperson been designated for your laboratories?
This person can be a faculty member, principal investigator or other person, knowledgeable with the lab's CHP and laboratory operations and protocols. They must be specified by name.
5. Have areas been designated and posted for the use of carcinogens, reproductive toxins and acutely toxic substances?
The areas where these substances are in use must be posted with the name of the substance and its hazard.



Chemical Hygiene Plans made painless

What is a Chemical Hygiene Plan? The OSHA definition states: "It is a written plan which is to be developed and implemented by the employer that sets forth procedures, and other work practices which are capable of protecting employees from the health hazards associated with hazardous chemicals in that workplace. It must be reviewed and updated at least annually." The plan must include standard operating procedures, criteria for implementing control measures to minimize employee exposures, measures to ensure proper operation of protective equipment, provision for training, protocols that require prior approval, medical consultation, assignment of a Chemical Hygiene Officer, and protocols for handling carcinogens, reproductive toxins and substances with a high degree of acute toxicity.



Draft plans are available online.

Although the development of a plan seems tedious, relief is available through several websites in the form of generic or boilerplate plans. These plans cover the majority of the requirements listed above and require a few specifics for completion. A visit to www.ehs.ohio-state.edu/labsafety, www.biosci.ohio-state.edu/~jsmith/SafetyPage.htm and www2.med.ohio-state.edu:90/safety/lab/ can save you a lot of effort!

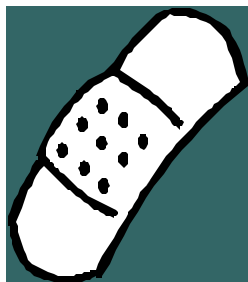
Trends from lab incident reports...

OEHS receives reports of laboratory related incidences. The number of reports received in 1998, 1999 and 2000, and the most frequent severity types, accident types and injured body parts are shown in the following tables.

Types of Lab Incidents by Year				Accident Type by Year				Body Part Injured by Year			
	1998	1999	2000		1998	1999	2000		1998	1999	2000
Incidents	50	56	55	Contact with sharps	19	21	8	Hand, finger or thumb	24	30	36
Medical	11	18	14	Contact with Chemicals	12	11	5	Eye or face	6	7	6
Lost Time	7	9	4								

"Incidents" represent all reported accidents (including first aid, medical and lost time), "medical" are those injuries that required medical treatment (OSHA recordable) and "lost time" incidents are those where the injured person could not return to work the day following the incident.

Contact with sharps include cuts, lacerations and punctures from glass, needles and cutting tools.



Do we measure success by our failures?

Personal protective equipment, when worn, is effective in preventing chemical contact.

Some may ask "How do we compare to...?" Others may ask "Are we comfortable with these numbers?" When incidences occur, it is a figurative "roll of the dice" as to the seriousness of the outcome. Will the incident result in a minor scratch, a disfiguring or crippling wound, blindness, death? Will a promising future for a grad student be changed to one of haunting memories of a lab accident? Will there be litigation? Perhaps a better question is, what administrative actions or inactions have allowed these numbers to arise?

The intent of the Lab Standard is to reduce these numbers in a proactive way. As employees are trained, chemical hygiene plans are implemented and adherence to safety protocols is encouraged by supervisors, the number of incidences will be reduced.