

Injury and Illness Prevention Program

1. Purpose of the Injury and Illness Prevention Program

It is the policy of the University of California, Berkeley to maintain a safe and healthy work environment for each employee (including student and contract employees), and to comply with all applicable occupational health and safety regulations. Likewise, the College of Chemistry is committed to maintaining a safe and healthy work environment for all of its employees in all of its work related activities. The College of Chemistry Injury and Illness Prevention Program (IIPP) is intended to establish a framework for identifying and correcting workplace hazards within the College, while addressing legal requirements for a formal, written IIPP.

All members of the College must participate in the Injury and Illness Prevention Program efforts regardless of status, job title or job function.

2. College Department Safety Committee

The College of Chemistry Department Safety Committee is an executive committee that devotes itself to reviewing incidents, near misses, existing protocols and developing new policies on health & safety issues. The Department Safety Committee has the ongoing responsibility to maintain and update this IIPP, to assess College compliance with applicable regulations and campus policies, to evaluate reports of unsafe conditions, to review incidents /injuries and to coordinate any necessary corrective actions. The Committee consists of faculty, staff and students and meets quarterly.

The Department Safety Committee prepares and makes available to all College personnel written details of issues discussed at the meetings. Committee meeting minutes are on file in the College of Chemistry Environment, Health, Safety & Security Program office in 317 Lewis. The location of these minutes and other health & safety documentation is described in the "Location of Health & Safety Records and References in the College of Chemistry" which is posted on the B-level Latimer Hall safety bulletin board or request a copy through the Director of EHS&S.

The Department Safety Committee can seek assistance in the remediation of a hazard from appropriate campus departments, including the Office of Environment, Health & Safety (EH&S) for campus health and safety issues, University Health Services (UHS) for ergonomic and workers' compensation issues or the University of California Police Department (UCPD) for personal security concerns.

3. Identifying and Reporting Work Place Hazards

Observed Hazards

In general, workplace hazards in the College of Chemistry are identified by members of the

COLLEGE OF CHEMISTRY HEALTH AND SAFETY MANUAL

College including faculty, staff and students through the normal course of work, research and instruction. Identified or recognized hazards can typically be communicated to the observer's immediate supervisor, safety coordinator, instructor or principal investigator for correction of the hazard. In correcting reported hazards, supervisors, etc. are free to request assistance from College of Chemistry Environment, Health Safety & Security program staff (3-0648) or the UCB Office of Environment, Health & Safety (2-3073). Any reported safety hazard which can not be immediately or easily resolved by the supervisor, safety coordinator, instructor or principal investigator can also be communicated to the Facilities Committee by contacting the committee chair or one's representative on the committee.

Another method for reporting hazards in the College is by use of the "Employee/Student Report of Unsafe Condition or Hazard". These forms may be submitted anonymously in the drop box in 317 Lewis.

All observed hazards should be reported first to a supervisor **without fear of reprisal**.

Safety Inspections

Workplace hazards in the College are also identified through regular, periodic safety inspections. Supervisors and principal investigators should check for safe work practices with each visit to the workplace and should provide immediate verbal feedback where hazards are observed.

Staff Unit Annual Self-Inspection

In addition to regular informal checks with each visit to the work area, supervisors must conduct a self-inspection of their facilities and offices at least once each year. The required self-inspection is accomplished by filling out the appropriate self-inspection checklist provided in Section 9 of the College of Chemistry Health and Safety Manual. College Shops should fill out the Campus EH&S Self-Inspection form. The Shops shall keep the original in their files and forward a copy to the EHS&S office, which will forward a copy to the Campus EH&S office. The Administrative units shall use the Office Inspection Checklist. All forms can be found on the Colleges' EHS&S website, Section 9. A discussion of each self-inspection should be included in the unit's regularly scheduled safety meeting. The supervisor is responsible for ensuring that noted hazards are mitigated in a timely manner. The College's EHS&S website is found here: <http://www.cchem.berkeley.edu/cchasp/>

Research Group Annual Laboratory Self-Inspection

Laboratory research groups shall complete the College's own self-inspection checklist once each year. The College of Chemistry Laboratory Self-Inspection form shall be used for each self-inspection. (Do not confuse it with the Office of EH&S Self Inspection form). This form can be found on the EHS&S Manual website, Section 9. The results of each inspection should be reviewed in-group safety meetings. The principal investigator is responsible for ensuring that noted hazards are mitigated in a timely manner.

Campus Office of EH&S Annual Inspections

All laboratories and shops in the College of Chemistry are also subject to an annual

inspection by UCB office of EH&S staff. This usually occurs in February and takes about 6-8 weeks to complete. The groups are notified in advance that a representative from Campus and the College will be touring the lab and asking focus questions on safety. A lab group member is asked to participate in this 15 minute tour. At the end of the tour the individual will be given a report that summarizes the observations of the investigators and lists any deficiencies to be corrected. Instructions on whom to contact and how to document corrections are included.

4. Communicating Work Place Hazards

Information about known workplace hazards is provided to all members of the College in a variety of ways. Supervisors and principal investigators are responsible for ensuring that their employees are supplied access to hazard information pertinent to their work assignments. In addition to simple verbal communication, the following tools can be utilized to facilitate hazard communication.

Safety Meetings / Laboratory Group Meetings

Staff supervisors are required under this IIPP to hold regular safety meetings with their staff. The purpose of these meetings is to establish a forum for employees to express safety concerns and to assist the supervisors in recognizing and controlling hazards in the work area. Supervisors should also use these meetings to help them determine if additional safety training is needed for their staff. Staff safety meetings are required under this plan **to be held at least twice per year.**

Research groups should discuss safety concerns at their regularly scheduled group meetings. A portion of the group meeting's agenda should be allocated to safety discussion.

All safety meetings coinciding with group meetings must be documented. Safety meeting details will be kept by the supervisor/PI with all other safety related records and a copy of the signature sheet for the safety training shall be forwarded to the EHS&S office at 317 Lewis Hall for inclusion in the Department's IIPP files.

Lesson's Learned / Safety Flyers

The College of Chemistry Environment, Health, Safety & Security Program periodically produces and distributes "Lesson's Learned" documents and safety flyers covering a variety of health and safety topics relevant to laboratory work in the College. The information presented in each "Lessons Learned" is intended to inform College employees and students about real accident occurrences (at UC and other institutions) and what can be learned from them. Safety flyers reinforce College safety policy and remind researchers about safe laboratory practices and procedures. In addition to being distributed to all research groups, "Lessons Learned" and safety flyers are posted in all elevators in the College for several weeks. They are also posted on the College's Safety Information Board, which is located on the B-level of Latimer Hall, across from the main passenger elevators. "Lessons Learned" are also reprinted for all laboratory safety training seminars as optional handouts to new graduate students and College researchers.

Material Safety Data Sheets/Safety Data Sheets

Material Safety Data Sheets MSDS's or SDS's provide information on the potential hazards of products or chemicals. Hard copies of MSDS's for the chemicals used in the College of Chemistry are available in 305 Lewis Hall. 305 Lewis is a small utility closet that is dedicated exclusively for MSDS storage. It is open 24 hours a day and no key is required to gain access. Missing MSDS's should be reported immediately to EHS&S (3-0648) so a new copy can be ordered.

MSDS's are also available over the Internet from a variety of sources. They can be obtained by accessing the College of Chemistry web page at <http://chemistry.berkeley.edu/links/> and scroll to the bottom of the page under "Health and Safety Resources".

The UC MSDS system is at <http://www.ucmsds.com/?X>. Any employee may request a personal analysis of the information on any MSDS by contacting their supervisor. If questions arise regarding the information presented on a MSDS, EHS&S (3-0648) is available to assist the supervisor and employee in understanding the MSDS information.

Standard Operating Procedures

Any non-routine or new task or job assignment which is complex and has a variety of safety related procedures should have a written set of Standard Operating Procedures ("an SOP") which clearly identifies all potential hazards of the job and control measures to ensure safety. If supervisors choose to prepare a SOP for a particular task, they are responsible for communicating the SOP information to their employees and enforcing the safety provisions detailed in the SOP.

Supervisors should feel free to call on CoC EHS&S (3-0648) or the UCB Office of Environment, Health & Safety (2-3073) for assistance in developing an SOP for a particular operation under their control.

All equipment in the College is to be operated in accordance with the manufacturer's instructions, as specified in the equipment's operating manual. Copies of equipment operating manuals should be available to assist persons who are unfamiliar with the operation of a piece of equipment. When relevant, employees should read the operating manual before using the equipment. Training should also be sought from an experienced operator or supervisor.

Building Notices Program

The College's Building Management Office publishes and posts building notices that inform affected employees about utility shutdowns, status of building maintenance activities and building related safety issues. These notices are posted in all elevators and in strategic locations throughout the College. Building related safety issues are also communicated to effected employees via email when appropriate.

5. Correcting Work Place Hazards

College supervisors, principal investigators and instructors are responsible for correcting hazards that are discovered either as a result of a scheduled periodic inspection or by observation during

normal operations. Supervisors of affected employees are expected to correct unsafe conditions as quickly as possible after discovery of a hazard.

Specific procedures that can be used to correct hazards include but are not limited to the following:

- Tagging unsafe equipment "Danger - Equipment Needs Repair," and providing a list of alternatives for employees to use until the item is repaired. Tags are available free of charge from EHS&S in 317 Lewis.
- Stopping unsafe work practices and providing retraining on proper procedures before work resumes.
- Reinforcing and explaining the need for proper personal protective equipment and ensuring its availability.
- Barricading areas that have chemical spills or other hazards and reporting the hazardous conditions to a supervisor, EHS&S office, or the College Building Management staff.

If an imminent hazard exists, work in the area should cease, and the appropriate supervisor must be contacted immediately. If the hazard cannot be immediately corrected without endangering employees or property, all personnel need to be removed from the area except those qualified and necessary to correct the condition. These qualified individuals will be equipped with necessary safeguards before addressing the situation.

Whenever necessary, the supervisor, principal investigator, etc., should call upon the College of Chemistry Environment, Health, Safety & Security Program staff (EHS&S) or the UCB Office of Environment, Health & Safety to assist in correcting identified hazards. Supervisors can also seek assistance in developing appropriate corrective actions by submitting an "Employee/Student Report of Unsafe Condition or Hazard" to the EHS&S office **without fear of reprisal**. The EHS&S office will review and forward reported unsafe conditions to the College Facilities Safety Committee. If the committee requires assistance from other campus resources such as Campus EH&S, UCB Physical Plant, or UCPD, these resources should be contacted immediately.

6. Investigating Injuries and Illnesses

Injury Reporting

Whenever *anyone* is injured in the College, the first concern is whether medical treatment is needed. If immediate medical treatment beyond first aid is needed, 911 must be called. The injured party will be taken to the appropriate hospital or medical center. Follow up the 911 call with a call to the Chemistry Department's Emergency Response Hotline at 642-9090. If non-emergency medical treatment for work-related injuries or illnesses is needed, call to the Chemistry Department's Emergency Response Hotline at 642-9090 and explain the situation to the on-call Emergency Action Director.

Once appropriate medical attention has been rendered, employees (Staff, Grad students, Post-docs) who are injured at the College must immediately report the injury to their supervisor or principal investigator and the EHS&S office. The supervisor of the injured employee must work with the College Building Management Office (contact @ 2-5060) to ensure that a "Workers'

"Compensation Claim Form" is completed properly and submitted to the Workers' Compensation Office (Tang Center, Suite 2100). A copy of the Workers Compensation Claim Form is also immediately forwarded to EHS&S for review and analysis.

Undergraduate students who are injured or involved in an accident during class or lab should report the incident to the teaching assistant (TA) in charge of the lab or to the course instructor. The TA or instructor should prepare an "Undergraduate Laboratory Injury Accident Report" and submit it to the stockroom manager. The stockroom manager will then add additional information to the report and forward it to the EHS&S office and the course instructor for review.

Injury Investigation

An injured employee's supervisor, principal investigator or student's instructor has primary responsibility for investigating the cause(s) of the incidents effecting their staff or students. Specific procedures that can be used to investigate workplace accidents and hazardous substance exposures include:

- Interviewing injured personnel and witnesses
- Examining the injured employee's work area for causative factors
- Reviewing established procedures to ensure they are adequate and were followed
- Reviewing training records of affected employees
- Taking corrective actions to prevent the accident/exposure from reoccurring
- Recording all findings and actions taken

If the supervisor is unable to determine the cause(s) and appropriate corrective actions, other resources should be sought. Available resources include the College of Chemistry Environment, Health, Safety & Security Program, the Facilities Committee, Campus EH&S, and other campus safety organizations.

EHS&S Incident Investigation Reports

As stated earlier, all Workman's' Compensation Claim Forms, Undergraduate Laboratory Injury Accident Reports and any other injury related information generated from a supervisor or principal investigator is forwarded to the EHS&S office for review. If a reported injury/incident requires further investigation, EHS&S will investigate the incident and prepare a written "Incident Investigation Report". This written report details the incident or accident and its likely cause. Corrective actions devised by EHS&S, working closely with the supervisor and injured person, are also detailed in the report. EHS&S actively works with supervisors to ensure that all corrective actions are implemented. Incident investigation reports are kept on file in 317 Lewis.

7. Health and Safety Training

Safety training in the College is provided at no cost to the employee and is conducted during the employee's normal working hours on University time. Safety training may be presented by a knowledgeable supervisor, other department personnel, or by representatives from other relevant campus departments. Most initial training courses are available online and instructions on how to access this training is found on the CoC EHS&S homepage, <http://ccehss.berkeley.edu> under the "Viewing the training requirements info document" hyperlink to pdf file.

Regardless of the training mode, all safety training must be documented using the "Record of Safety Training" sheet or an equivalent electronic record. IIPP training documentation forms are available in Section 9 of the College of Chemistry Health and Safety Manual. Copies of completed "Record of Safety Training" forms or the equivalent must be forwarded to EHS&S.

Initial IIPP Safety Training

All College personnel will be trained on the structure of the IIPP, including individual responsibilities under the program, and the availability of the written program. Training will also be provided on how to report unsafe conditions, how to access the Safety Committee, and where to obtain information on workplace safety and health issues. This can be accomplished by taking the online course, "EHS 101".

College Staff Training

His/her immediate supervisor conducts initial training on the structure of the IIPP for new College staff members. Supervisors may elect to conduct this initial training online, one-on-one with the employee(s) or as part of a group safety meeting. Initial IIPP training must occur before the new employee(s) begins working. This training must be documented on the "Record of Safety Training Form" or the equivalent and a copy forwarded to the EHS&S office.

Supervisors are also responsible for conducting initial training on the Hazard Communication Program (Section 4 of the College of Chemistry Health and Safety Manual) and the College Emergency Response plan.

Supervisors receive orientation training from EHS&S to assist them in meeting their training responsibilities.

Laboratory Research Personnel (Undergraduate Students, Graduate Students and Post-docs)

Initial training on the structure of the IIPP for new laboratory research personnel is included in the Laboratory Safety and Emergency Response Seminar. This three-hour seminar includes hands on fire extinguisher training, laboratory safety training (Chemical Hygiene Plan information), building safety information and emergency response plan training. Campus Office of Environment, Safety, and Health, CoC EHS&S and the College Building Management Office conduct the seminar. It is mandatory for all undergraduate, graduate student and post-doc laboratory researchers. It is provided to students upon their arrival in August of each year and can be satisfied throughout the year by completing the EHS 101 online course. Additional training requirements exist for researchers operating lasers, working with radioactive materials, and using biological or select agents. These courses can be found on the UCB Office of EH&S website at: <http://www.ehs.berkeley.edu/training.html>

Training on Specific Hazards by the Supervisor/PI

In addition to the initial training requirements detailed above, supervisors and principal investigators must ensure that their staff and students receive appropriate training on the *specific* hazards of work they perform, and the proper precautions for protection against those hazards. Training is particularly important for new employees and whenever a new hazard is introduced into the workplace. Hazards may arise in the workplace from new equipment or work procedures and hazardous materials. Health and Safety training is also required when employees are given new job assignments on which they have not previously been trained and whenever a supervisor is made aware of a new or previously unrecognized hazard.

Specific topics that may or may not be pertinent to College personnel depending on job assignment include:

- Fire prevention techniques and fire extinguisher use
- Obtaining emergency medical assistance and first aid
- Disaster preparedness and response, including building evacuation procedures
- Health and safety for computer users
- Back care, body mechanics, and proper lifting techniques
- Use of various types of personal protective equipment
- Special hazards in laboratories
- Violence in the Workplace
- Shop tool/equipment use
- Asbestos & lead paint awareness
- Hazards and exposure control for the particular chemicals used by the employee

8. Ensuring Compliance with the IIPP

All College personnel have the responsibility for complying with safe and healthful work practices, including applicable regulations, campus policy, and College safety procedures. Overall performance in maintenance of a safe and healthful work environment should be recognized by each supervisor and noted in performance evaluations. Employees will not be discriminated against for work-related injuries, and injuries will not be included in performance evaluations, unless the injuries were a result of a deliberate unsafe act on the part of the employee.

Standard progressive disciplinary measures in accordance with the applicable personnel policy or labor contract will result when employees fail to comply with applicable regulations, campus policy, and/or departmental safety procedures. Faculty members will be disciplined for unsafe practices in accordance with the Faculty Code of Conduct. Students not employed by the University will be disciplined for unsafe practices in accordance with the Student Code of Conduct. All personnel will be given instruction and an opportunity to correct unsafe behavior. Repeated failure to comply or willful and intentional non-compliance may result in disciplinary measures up to and including termination.

9. Record Keeping

All groups shall keep a copy of their training records available for review for at least the period of time a researcher is actively working in the lab. A copy of all training documents shall be forwarded to the EHS&S office at 317 Lewis Hall for retention of no less than 1 year after the researcher leaves the workplace.

Documents related to the IIPP are maintained in 317 Lewis. By law, certain documents related to the IIPP must be kept by the College for at least one year.

These records include:

- Records of scheduled and periodic workplace inspections, including the persons conducting the inspection, any identified unsafe conditions or work practices, and corrective actions.
- Employee safety training records, including the names of all attendees and instructors, the training date, and material covered.

Other documents related to the IIPP that are kept on file in 317 Lewis include:

- Reports of Unsafe Conditions or Hazards
- Facilities Committee Meeting Documentation
- Incident Investigation Reports