

# UC DAVIS

CHEMISTRY

## INJURY AND ILLNESS PREVENTION PROGRAM



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This Injury and Illness Prevention Program has been prepared by the University of California, Chemistry Department in accordance with University Policy (UCD Policy & Procedure Manual [Section 290-15](#): Safety Management Program) and California Code of Regulations Title 8, Section 3203 ([8CCR §3203](#)).

# UC DAVIS

## CHEMISTRY

### INJURY AND ILLNESS PREVENTION PROGRAM

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# Department Information

Department Name: CHEMISTRY

Department Chair: JARED SHAW

Telephone Number: (530)752-9979

## Buildings Occupied by Department

- 1. Building:** Chemistry/Chemistry Annex  
141/221 Physical Sciences Mall  
**Unit(s):** Research/Teaching  
**Contact:** Debbie Decker/Scott Berg  
**Phone:** (530)754-7964/(530)752-1957  
**Office:** Chemistry 3467/Chemistry 134
- 2. Building:** Earth and Physical Sciences  
462 Crocker Lane  
**Unit(s):** Teaching  
**Contact:** Jillian Emerson  
**Phone:** (530)752-3618  
**Office:** EPS 3314
- 3. Building:** Sciences Lab Building  
505 Hutchison Drive  
**Unit(s):** Teaching  
**Contact:** William Huang  
**Phone:** (530)752-3615  
**Office:** SLB 1060
- 4. Building:** Briggs Hall  
550 Storer Mall  
**Units:** Research  
**Contact:** Andy Fisher  
**Phone:** (530)754-6180  
**Office:** Briggs 4A
- 5. Building:** Genome & Biomedical Sciences Facility (GBSF)  
451 Health Sciences Drive  
**Units:** Research  
**Contact:** Justin Siegel  
**Phone:** (530)752-9910  
**Office:** 1315 GBSF

## I. Authorities and Responsible Parties

The authority and responsibility for the implementation and maintenance of the Injury and Illness Prevention Program (IIPP) is in accordance with University Policy (UCD Policy & Procedure Manual Section 290-15: Safety Management Program) and California Code of Regulations (8 CCR, Section 3203) and is held by the following individuals:

1. Name: **Jared T. Shaw**

Title: **Department Chair**

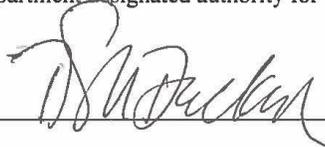
Authority: Authority and responsibility for ensuring implementation of this IIPP

Signature:  Date: 5-16-19

2. Name: **Debbie M. Decker**

Title: **Safety Manager**

Authority: Department designated authority for implementation of this IIPP

Signature:  Date: 5/17/19

**Review/Revision History:**

- 11/12/2019: Updated emergency contact list with new format
- 05/13/2019: Reviewed by D. Decker. Approved by Chair Shaw.  
Updated emergency contact list with new CAO Tweddale.  
Checked and repaired broken links.  
Uploaded this plan to on-line submission form, facilitated by campus EH&S.
- 10/26/2018: Updated emergency contact list
- 10/01/2018: Reviewed and approved by Chair Shaw  
Reviewed and updated by D. Decker, Safety Manager  
Replace Chair Guo with Chair Shaw  
Updated personnel lists  
Updated Emergency Contact List
- 12/05/2016: Reviewed and approved by Chair Guo  
Reviewed and updated by D. Decker, Safety Manager  
Replace Chair Kauzlarich with Chair Guo  
Updated buildings occupied by Department and updated building contact information  
Included Appendix D – Building Access Plan for Undergraduate Researchers  
Section V: Incident Reporting – updated after-hours facility information  
Links repaired  
Updated Emergency Contact List
- 02/16/2016: Reviewed and updated by D. Decker, Safety Manager  
Minor grammatical edits.  
Links checked and repaired as needed.
- 07/30/2015: Reviewed and approved by Chair Kauzlarich  
Reviewed and updated by D. Decker, Safety Manager  
Updated Communication Systems  
Section V: Incident Reporting – re-written for clarity, links repaired.  
Updated Safety Data Sheet link  
Forms collected into Appendix A  
Adjusted self/peer-inspection frequency from semi-annually to annually
- 11/17/2014: Reviewed and updated by D. Decker, Safety Manager  
Replace “Michael Sisto” with “Scott Berg,” New Facility Manger  
Updated Emergency Contact sheet with new members of Department Safety Committee.  
Updated “Students with Disabilities” guidance to be in compliance with State Regulations.
- 9/17/2013: Reviewed, approved and signed by S. Kauzlarich, Department Chair  
Section V rewritten for clarity. Emergency contact sheet updated with new dept. chair (S. Kauzlarich) and new safety cmte. Chair (D. Goodin)  
Added Ghausi and Briggs Hall contact information.
- 5/17/2013: Reviewed, approved and signed by J. Gervay-Hague, Department Chair
- 5/16/2013: Reviewed by Department Safety Committee (M. Kurth, Committee chair, L. Berben, S. Atsumi, B. Enderle, D. Wong, R. Osibanjo, X. Chen, G. Nepomuceno, M. Sisto, D. Decker). Significant changes and updates made.

## II. System of Communications

1. Effective communications with **Chemistry Department** employees have been established using the following methods:

- Standard Operating Procedures and lab-specific Laboratory Safety Plan
- Safety Data Sheets (available online at [ucsd.edu](http://ucsd.edu))
- Regular departmental and lab group meetings (faculty and department safety committee)
- Regular Department Safety Committee meetings
- EH&S [Safety Nets](#)
- Handouts
- Building Evacuation Plan (*incorporated as part of the red Emergency Response Guide*)
- E-mail
- Posters and warning labels
- Job Safety Analysis (incorporated into this document)
- Other (list): \_\_\_\_\_

- 
- 
- 
- Safety portal on the Department website
  - Department specific safety newsletter
  - Occasional “Newsflash” publications for time-sensitive safety information
  - Quarterly meetings with Safety Representatives
- 
- 

2. Employees are encouraged to report any potential health and safety hazard that may exist in the workplace. Hazard Alert forms are available to employees for this purpose (see Section VI). Forms are to be placed in the Safety Coordinator’s departmental mail box. Employees have the option to remain anonymous when making a report.
3. Employees have been advised of adherence to safe work practices and the proper use of required personal protective equipment. Conformance will be reinforced by discipline for non-compliance in accordance with University policy ([UCD Procedure 62 - Personnel Policies for Staff Members, Corrective Action](#)).

### **III. System for Assuring Employee Compliance with Safe Work Practices**

Employees have been advised of adherence to safe work practices and the proper use of required personal protective equipment. Conformance will be reinforced by discipline for non-compliance in accordance with University policy ([UCD Procedure 62 - Personnel Policies for Staff Members, Corrective Action](#)).

The following methods are used to reinforce conformance with this program:

1. Distribution of Policies
2. Training Programs
3. Safety Performance Evaluations

Performance evaluations at all levels must include an assessment of the individual's commitment to and performance of the accident prevention requirements of his/her position. The following are examples of factors considered when evaluating an employee's safety performance.

- Adherence to defined safety practices.
  - Use of provided safety equipment.
  - Reporting unsafe acts, conditions, and equipment.
  - Offering suggestions for solutions to safety problems.
  - Planning work to include checking safety of equipment and procedures before starting.
  - Early reporting of illness or injury that may arise as a result of the job.
  - Providing support to safety programs.
4. Statement of non-compliance will be placed in performance evaluations if employee neglects to follow proper safety procedures, and documented records are on file that clearly indicate training was provided for the specific topic, and the employee understood the training and potential hazards.
  5. Corrective action for non-compliance will take place when documentation exists proper training was provided, the employee understood the training, and the employee knowingly neglected to follow proper safety procedures. Corrective action includes, but is not limited to, the following: Letter of Expectation, Letter of Warning, Suspension, or Dismissal.

## **IV. Hazard Identification, Evaluation, and Inspection**

Job Safety Analyses and worksite inspections have been established to identify and evaluate occupational safety and health hazards.

### **1. Job Safety Analysis:**

Job Safety Analysis (JSA) identifies and evaluates individual employee work functions, potential health or injury hazards, and specifies appropriate safe practices, personal protective equipment, and tools/equipment. JSA's have been completed for the following job categories:

#### **A. Chemistry/Chemistry Annex, Briggs EPS/Sciences Lab Building**

- Laboratory Worker
- Office Worker
- Dispensary Staff

#### **B. 134 Chemistry**

- Development Engineer – Machinist

#### **C. 131 Chemistry**

- Glassblower

#### **D. 0039 Chemistry**

- Development Engineer - Electronics

#### **E. 149 Chemistry**

- Shipping/Receiving Clerk

**Job Safety Analyses (JSAs) are located in Appendix B.**

### **2. Worksite Inspections**

Worksite inspections are conducted to identify and evaluate potential hazards. Types of worksite inspections include both periodic scheduled worksite inspections as well as those required for accident investigations, injury and illness cases, and unusual occurrences. Inspections are conducted at the following worksites:

- 1) Location: **Chemistry/Chem Annex (All department buildings)**  
Frequency: **Annually**  
Responsible Person: **Debbie Decker/Scott Berg/Safety TA**  
Records Location: **3467 Chemistry**
- 2) Location: **Sciences Lab Building**  
Frequency: **Annually**

Responsible Person: **William Huang**  
Records Location: **1060 SLB**

- 3) Location: **Earth and Physical Sciences**  
Frequency: **Annually**  
Responsible Person: **Jillian Emerson**  
Records Location: **3314 EPS**

**Worksite Inspection Forms** for labs, shops, and office spaces, are located in **Appendix A, IIPP Forms**.

## V. Incident/Injury Reporting and Investigation

All incidents and injuries must be reported. **Chemistry Department workers** will immediately notify their supervisor when occupationally related injuries and illnesses occur, or when workers first become aware of such problems. For any injury or exposure requiring more than basic first aid or 10-15 minute water rinse, 911 must be called.

### **Call 9-1-1 in case of a medical emergency.**

**Emergency or After Hours, call 9-1-1**

***Or go to Davis Urgent Care, 4515 Fermi Place, Ste. 105.***

***If Davis Urgent Care is closed, go to Sutter Davis Hospital Emergency Room.***

Supervisor (or next responsible person) must accompany the worker to the ER. Supervisors, make sure your worker(s) let you know of *extended hospitalization* and *Return to Work* restrictions.

### **For serious injury/illness or death:**

Serious occupational injuries, illnesses, or exposures (including injuries/illnesses/exposures that cause permanent disfigurement or require hospitalization) must be reported to Cal/OSHA by an EH&S representative within eight hours after they become known to the supervisor. Please refer to [EH&S SafetyNet #121](#) for Cal/OSHA notification instructions.

During normal business hours contact EH&S at (530)752-1493 to report any serious injury/illness or death of an employee. Outside of normal business hours call the UC Police/Fire Dispatch Center at 9-1-1 who will in-turn contact an Environmental Health & Safety representative.

### **Non-emergency, during regular work hours Mon-Fri (8am – 5pm):**

#### ***For Employees:***

1. Call Occupational Health Services at 530-752-6051 to schedule an appointment for the employee.

The clinic is located in the Cowell Building. [Map](#).

2. Complete the employee's section: [Employer's First Report](#). Print a copy and employee brings to the clinic.

#### ***For Students:***

1. Call Student Health Center at 530-752-2349 to schedule an appointment for the student.

The clinic is located across from the Activities and Recreation Center (ARC). [Map](#)

2. Complete the Chemistry Department Incident Report [form](#). Print a copy and student brings to the clinic.

**Non-emergency, outside of normal business hours:**

If medical treatment is necessary, send to Davis Urgent Care or the closest medical treatment facility.

***For Employees:***

1. Call 877-682-7778 to report the work-related injury/illness and file a WC claim.
2. UC Davis WC will be notified by Sedgwick/CMS.
3. Complete Employee's Section: [Employer's First Report](#), fax (530-752-3439) to WC.

**For Workers' Compensation Related Questions:**

Kim Sieg: [klsieg@ucdavis.edu](mailto:klsieg@ucdavis.edu), 530-752-7243

**Department Documentation Requirements:**

**Supervisors** will investigate all accidents, injuries, occupational illnesses, and near-miss incidents to identify the causal factors or attendant hazards. Appropriate repairs or procedural changes will be implemented promptly to mitigate the hazards implicated in these events.

The Chemistry Department [Incident Report](#) shall be completed to record pertinent information and a copy retained to serve as documentation. It can be completed by either the supervisor or the Department Safety Coordinator (Debbie Decker – 530-754-7964 or 530-304-6728). For any injury or exposure requiring more than basic first aid or 10-15 minute water rinse, 911 must be called. The Department Incident Report would be in addition to the Employer's First Report.

*Please note: It's better to over-report incidents/occupational injuries than under-report. If you're unsure about reporting requirements, please contact the Department Safety Coordinator (Debbie Decker – 530-754-7964 or 530-304-6728) or the EH&S On-Call Specialist (530-752-1493) for advice. The Department Emergency Call list is included, below, and posted prominently around the Department.*

**Other Information:**

University Policy requires that work-related injuries and illnesses be reported to Workers' Compensation (WC) as soon as practicable and state regulation requires all accidents be investigated.

# Department of Chemistry

## Procedures in Case of an Emergency

In case of emergencies [Fire, Bomb Threats, (received directly), Health, Personal Injury, or Hazardous Spills requiring outside assistance] **DIAL 911** (give building, room number and request ambulance if any injury has occurred).

**CHAIN OF CONTACT FOR EMERGENCY ACTIONS:** Contact the first person on the list and if unavailable, continue to contact the next individual listed:

<b>Debbie Decker, Safety Manager</b>	<b>Office</b>	<b>(530)754-7964</b>
	<b>Cell</b>	<b>(530)304-6728</b>
<b>Scott Berg, Facilities Manager</b>	<b>Office</b>	<b>(530)752-1957</b>
	<b>Cell</b>	<b>(916)224-0295</b>
<b>Kate Tweddale, CAO</b>	<b>Office</b>	<b>(530)752-3988</b>
	<b>Cell</b>	<b>(530)979-0319</b>
<b>Bill Casey, Safety Committee Chair</b>	<b>Cell</b>	<b>(530)574-5906</b>
<b>Jared Shaw, Dept. Chair</b>	<b>Office</b>	<b>(530)752-0504</b>
	<b>Cell</b>	<b>(530)574-2021</b>

**When an EMERGENCY occurs DIAL...911 (give building, room number and request an ambulance if any injury has occurred)**

*11/05/2019*

## **VI. Hazard Correction**

Hazards discovered either as a result of a scheduled periodic inspection or during normal operations must be corrected by the supervisor in control of the work area, or by cooperation between the department in control of the work area and the supervisor of the employees working in the area. Supervisors of affected employees are expected to correct unsafe conditions as quickly as possible after discovery of a hazard, based on the severity of the hazard.

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

- Tagging unsafe equipment “Do Not Use Until Repaired,” and providing a list of alternatives for employees to use until the equipment is repaired.
- 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 where chemical spills have occurred or other hazards are discovered and reporting the hazardous conditions to the Department Safety Coordinator (Debbie Decker – 530-754-7964 or 530-304-6728), Facility Manager (Scott Berg – 530-752-1957 or 916-224-0295), or the EH&S On-Call Specialist (530-752-1493), as appropriate.

Supervisors should use the Hazard Alert Form, available in Appendix A, to document corrective actions, including projected and actual completion dates.

If an imminent hazard exists, work in the area must 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 leave the area except those qualified and necessary to correct the condition. These qualified individuals will be equipped with necessary safeguards before addressing the situation.

## **VII. Health and Safety Training**

Health and safety training, covering both general work practices and job-specific hazard training is the responsibility of the Principal Investigator and/or immediate Supervisor(s) as applicable to the following criteria:

1. Supervisors are provided with training to become familiar with the safety and health hazards to which employees under their immediate direction and control may be exposed.
2. All new employees receive training prior to engaging in responsibilities that pose potential hazard(s). A [Site Specific Safety and Orientation Training](#) checklist is provided on the Department Safety website.
3. All employees given new job assignments receive training on the hazards of their new responsibilities prior to actually assuming those responsibilities.
4. Training is provided whenever new substances, processes, procedures, or equipment (which represent a new hazard) are introduced to the workplace.
5. Whenever the employer is made aware of a new or previously unrecognized hazard, training is provided.
6. Individual employee training records are located in the employee's primary work place.

Safety training documentation forms are included in Appendix A: IIPP training (including JSA training), Lab Safety Plan training, SOP training. Supervisors may use these forms or create a form, suitable for local conditions.

## **VIII. Recordkeeping and Documentation**

Documents related to the IIPP are maintained in **3467 Chemistry Annex or on the Department Google Drive at “Safety.”**

The following documents will be maintained within the department’s **IIPP Addendum Binder** for at least the length of time indicated below:

1. Hazard Alert Forms (Appendix A form).  
Retain for three (3) years.
2. Employee Job Safety Analysis forms (Appendix A form)  
Retain for the duration of each individual’s employment.
3. Worksite Inspection Forms (Appendix A form).  
Retain for three (3) years.
4. Accident Investigation Forms (Appendix A form).  
Retain for three (3) years.
5. Hazard Correction Reports (Appendix A form).  
Retain for three (3) years.

The following documents will be maintained within the employee’s primary work location:

1. Employee Safety Training Attendance Records (Appendix A form, or similar workplace-specific form).  
Retain for length of employment, plus three (3) years.

## **IX. Resources**

1. Office of the President: [University Policy on Health, Safety and the Environment](#), 10/28/05
2. UC Davis Policy and Procedure Manual, [Section 290-15](#), Safety Management Program
3. California Code of Regulations Title 8, Section 3203, ([8CCR §3203](#)), Injury and Illness Prevention Program
4. Personnel Policies for Staff Members, Corrective Action, [UCD Procedure 62](#)
5. UC Davis Environmental Health & Safety/Safety Services
  - [EH&S Website](#)
  - [EH&S SafetyNets](#)
  - [Safety Data Sheets](#)
6. Access the [Department Safety Website](#) for the most up-to-date information and additional resources.

## **Appendix A – IIPP Forms**

Department of Chemistry Incident Report Form

Hazard Alert Form

IIPP Training Document (including JSA training)

Lab Safety Plan Training Document

SOP Training Document

Office Inspection Form

Laboratory Inspection Form

Cal/OSHA Compliance Checklist - UCD

**Department of Chemistry Incident Report**

This document must be filled out by a Teaching Assistant, Graduate Student, or Employee for any incident, fire, or explosion, regardless of severity. Please provide responses for all of the questions above the bold line and return the completed form to the Floor Dispensary or Receiving room (143).

Name of party involved in Incident: \_\_\_\_\_ Phone #: \_\_\_\_\_

Faculty, Staff, or Student?: \_\_\_\_\_ Date of Incident: \_\_\_\_\_ Time of Incident: \_\_\_\_\_

PI/Course Professor: \_\_\_\_\_ Course Number: \_\_\_\_\_

Location of Incident: \_\_\_\_\_

Description of Incident: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Type and extent of injury and treatment rendered: \_\_\_\_\_

\_\_\_\_\_

Did the injured party report to Student/Occupational Health center or hospital?: \_\_\_\_\_

Was the party advised to report to Student/Occupational Health center?: \_\_\_\_\_

Was UC Fire Department notified?: \_\_\_\_\_ Was EH&S notified?: \_\_\_\_\_

Type and extent of property damage: \_\_\_\_\_

\_\_\_\_\_

Cause of incident: \_\_\_\_\_

\_\_\_\_\_

Corrective Action to be taken to prevent reoccurrence: \_\_\_\_\_

\_\_\_\_\_

Date corrective action taken: \_\_\_\_\_

**Please both print and sign below:**

Reported by: \_\_\_\_\_ Date: \_\_\_\_\_

Teaching Assistant: \_\_\_\_\_ Date: \_\_\_\_\_

Party involved in incident: \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_

Safety Committee comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Reviewed by: \_\_\_\_\_ Date: \_\_\_\_\_

Chair, Safety Committee

**HAZARD ALERT FORM**

Department: Chemistry\_\_\_\_\_

**I. Unsafe Condition or Hazard**

Name: (optional)\_\_\_\_\_ Job:\_\_\_\_\_

Title: (optional)\_\_\_\_\_

Location of Hazard:\_\_\_\_\_

Building:\_\_\_\_\_ Floor:\_\_\_\_\_ Room:\_\_\_\_\_

Date and time the condition or hazard was observed:

Description of unsafe condition or hazard:\_\_\_\_\_

\_\_\_\_\_

What changes would you recommend to correct the condition or hazard?

\_\_\_\_\_

Employee Signature: (optional)\_\_\_\_\_

Date:\_\_\_\_\_

**II. Management/Safety Committee Investigation**

Name of person investigating unsafe condition or hazard:

Results of investigation (What was found? Was condition unsafe or a hazard?): (Attach additional sheets if necessary.)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Proposed action to be taken to correct hazard or unsafe condition: (Complete and attach a Hazard Correction Report, IIPP Appendix E)

\_\_\_\_\_

\_\_\_\_\_

Signature of Investigating Party:\_\_\_\_\_

Date:\_\_\_\_\_

**IIPP-Appendix A  
March 2006**

Completed copies of this form should be routed to the appropriate supervisor and department Safety Coordinator, and must be maintained in department files for at least three years.





**Documentation of SOP Training** *(signature of all users is required)*

- ✓ Prior to conducting any work with **(SOP Title)**, laboratory personnel must be trained on the hazards involved in working with this SOP, how to protect themselves from the hazards, and emergency procedures.
- ✓ Ready access to this SOP and to a Safety Data Sheet for each hazardous material described in the SOP must be made available.
- ✓ The Principal Investigator must ensure that his/her laboratory personnel have attended appropriate laboratory safety training or refresher training within the last three years.

**Designated Trainer:** *(signature is required)*

I have read and understand the content of this SOP:

Name	Signature	Trainer Initials	Date

**WORKSITE INSPECTION FORM**

## General Office Environment

Location: \_\_\_\_\_ Date: \_\_\_\_\_

Inspector: \_\_\_\_\_ Phone: \_\_\_\_\_

Department: \_\_\_\_\_

**Administration and Training**

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	1.	Are all safety records maintained in a centralized file for easy access? Are they current?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	2.	Have all employees attended Injury & Illness Prevention Program training? If not, what percentage has attended? _____
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	3.	Does the department have a completed Emergency Action Plan? Are employees being trained on its contents?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	4.	Are chemical products used in the office being purchased in small quantities? Are Material Safety Data Sheets needed?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	5.	Are the Cal/OSHA information poster, Workers' Compensation bulletin, annual accident summary posted?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	6.	Are annual workplace inspections performed and documented?

**General Safety**

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	7.	Are exits, fire alarms, pull boxes clearly marked and unobstructed?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	8.	Are aisles and corridors unobstructed to allow unimpeded evacuations?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	9.	Is a clearly identified, unobstructed, charged, currently inspected and tagged, wall-mounted fire extinguisher available as required by the Fire Department?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	10.	Are ergonomic issues being addressed for employees using computers or at risk of repetitive motion injuries?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	11.	Is a fully stocked first-aid kit available? Is the location known to all employees in the area?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	12.	Are cabinets, shelves, and furniture over five feet tall secured to prevent toppling during earthquakes?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	13.	Are books and heavy items and equipment stored on low shelves and secured to prevent them from falling on people during earthquakes?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	14.	Is the office kept clean of trash and recyclables promptly removed?

**Electrical Safety**

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	15.	Are plugs, cords, electrical panels, and receptacles in good condition? No exposed conductors or broken insulation?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	16.	Are circuit breaker panels accessible and labeled?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	17.	Are surge protectors being used? If so, they must be equipped with an automatic circuit breaker, have cords no longer than 6 feet in length, and be plugged directly into a wall outlet.

Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	18.	Is lighting adequate throughout the work environment?
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	19.	Are extension cords being used correctly? They must not run through walls, doors, ceiling, or present a trip hazard.
Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>	20.	Are portable electric heaters being used? If so, they must be UL listed, plugged directly into a wall outlet, and located away from combustible materials.

**IIPP-Appendix C-Office  
March 2006**

Completed copies of this form should be routed to the department Safety Coordinator and must be maintained in department files for at least three years.

**University of California, Davis  
Laboratory Self-Inspection Checklist**

Principal Investigator/Laboratory Supervisor: \_\_\_\_\_

Laboratories Reviewed: \_\_\_\_\_

Date: \_\_\_\_\_

Reviewer: \_\_\_\_\_

Revised 1/2015

<b>I. SAFETY PROGRAM ADMINISTRATON</b>			
<b>A. Chemical Hygiene Plan</b>	Yes	No	N/A
1. Does the laboratory have access to the campus-wide Chemical Hygiene Plan and all of the required elements?			
2. Are there any operations that require prior approval before beginning (e.g., Radiation Safety, Bio-safety committee)?			
<b>B. Illness and Injury Prevention Plan</b>	Yes	No	N/A
1. Does laboratory have access to Department IIPP and has it been reviewed in past year?			
2. Is there documentation that all laboratory personnel have trained on IIPP?			
<b>C. Standard Operating Procedures (SOP's)</b>	Yes	No	N/A
1. Are there written SOP's covering the laboratory processes and hazardous chemicals referenced in Title 8 ( <i>i.e.</i> , acutely toxic substances, reproductive toxins, and regulated carcinogens)?			
2. Are there exemptions to the written SOPs and are these documented?			
3. Training of laboratory personnel documented.			
4. Required specialized training complete and documented.			
5. Training is current with Chemical Hygiene Plan.			
6. Training is complete on Hazardous waste management.			
7. Training is complete on Blood borne Pathogen requirements.			
<b>II. HAZARDOUS MATERIALS</b>	Yes	No	N/A
1. Laboratory doors are labeled with emergency contact notification names & numbers, hazards present & necessary precautions.			
2. Labels are clean and intact on all chemical containers.			
3. Chemical containers are clearly identified with contents and hazards.			
4. Containers with non-hazardous substances ( <i>i.e.</i> , water) clearly labeled to avoid confusion.			
<b>A. Chemical Controls</b>	Yes	No	N/A

Notes: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1. Chemicals are not stored on laboratory benches in excessive quantities.			
2. Expired or chemicals not used (for more than one year) are disposed of as hazardous waste.			
3. Secondary containment is provided for strong acids and strong bases.			
4. Incompatible chemicals are segregated and stored with compatible hazard classes.			
5. All chemical containers are closed, except when actively adding or removing materials from them ( <i>i.e.</i> , no open funnels left in container).			
6. Containers of peroxide-forming chemicals are dated upon receipt and disposed of as hazardous waste within one year of receipt.			
7. Safety Data Sheets (SDS) and laboratory chemical inventory are up-to-date and readily available.			
8. Chemicals (liquids) are stored below eye level and not directly on the floor, unless in secondary containment.			
9. Dedicated chemical storage (cabinets, refrigerators, freezers) clearly labeled with contents and hazard warnings.			
<b>B. Flammable &amp; Combustible Liquids</b>	Yes	No	N/A
1. Flammable liquids stored in 1-gallon or smaller containers or kept in 2-gallon or smaller safety cans.			
2. Flammable liquids (including flammable liquid waste) stored outside of a storage cabinet does not exceed 10 gallons.			
3. If more than 10 gallons of flammable liquids are present does the laboratory have an approved flammable storage cabinet?			
4. Flammable liquids, stored in flammable storage cabinets limited to 60 gallons per fire rated area.			
5. Flammable liquids requiring reduced temperature stored in flammable-rated refrigerator/freezer.			
<b>C. Particularly Hazardous Substances</b>	Yes	No	N/A
1. Have all particularly hazardous substances been identified?			
2. Designated area(s) for acutely toxic materials, reproductive toxins and/or carcinogens clearly marked.			
3. Are all users adequately trained? Documentation available?			
4. All necessary PPE (personal protective equipment) available and used as needed.			
<b>D. Radioactive Materials</b>	Yes	No	N/A
1. Stock materials of radioactive materials are secured against unauthorized removal?			
2. Do personnel wear lab coats and gloves when handling radioactive materials? If assigned dosimeters, are they wearing them?			

Notes: \_\_\_\_\_

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3. Are all radioactive materials registered with the EH&S Health Physics Program?			
4. Radioactive Waste – Properly labeled, segregated, and shielded?			
<b>III. CHEMICAL WASTE</b>			
<b>A. Storage</b>	Yes	No	N/A
1. Are chemical waste containers properly segregated, sealed with tight-fitting caps and stored with EH&S Hazardous Waste Labels attached?			
2. All hazardous chemical waste is arranged to be picked up by EH&S — not drain disposed or evaporated.			
3. Hazardous chemical waste has been accumulating for less than 270 days. Extremely hazardous waste has been accumulating less than 90 days.			
4. All hazardous chemical waste is secondary contained.			
5. Training for personnel handling hazardous waste is documented?			
6. EH&S is called for waste pick up when containers are full (90% capacity or full line) or have reached their accumulation date threshold.			
7. Waste containers sturdy, compatible with the waste, routinely checked for leaks and kept closed when not actively being filled.			
<b>B. Labeling</b>	Yes	No	N/A
1. All hazardous waste containers have the proper labels with contents and accumulation start date.			
2. The hazardous waste accumulation area is clean with waste containers clearly marked.			
<b>IV. BIOHAZARDOUS WASTE</b>			
<b>A. Storage</b>	Yes	No	N/A
1. Solid bio hazardous waste is bagged in red polyethylene bags as per the Medical Waste Management Plan.			
2. Bio hazardous liquid waste is managed per the Medical Waste Management Plan.			
3. Sharps stored in puncture-proof containers and labeled appropriately, not past fill line.			
<b>B. Labeling</b>	Yes	No	N/A
1. Secondary containers for laboratory medical waste storage or transport labeled with the international biohazard symbol and the word "Biohazard."			
<b>V. PERSONAL HEALTH AND SAFETY</b>			
<b>A. Food and Drink</b>	Yes	No	N/A
1. Sinks labeled "Industrial Water – Do Not Drink".			
2. Food and drink is not permitted in laboratories.			
3. Food and drink is stored only in refrigerators/freezers dedicated and labeled "for food only".			

Notes: \_\_\_\_\_

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<b>B. Standard Practices</b>	Yes	No	N/A
1. Employees wash areas of exposed skin prior to leaving the laboratory.			
2. Sink is available and hands washed after removing gloves and before leaving laboratory.			
3. Cosmetic applications, taking medication, touching eyes, nose or mouth avoided in laboratory.			
<b>VI. HEALTH AND SAFETY EQUIPMENT</b>			
<b>A. Safety Showers and Eye Washes</b>	Yes	No	N/A
1. Approved safety showers and eye washes provided within 10 seconds travel time from the work area for immediate use, with no barriers ( <i>i.e.</i> doors) for use or storage of corrosives.			
2. All eyewashes and showers have unobstructed access.			
3. Units inspected and activated monthly. Annually certification by Facilities Management for proper functioning.			
4. Sign indicating location of safety shower and eye wash unobstructed.			
<b>B. Personal Protective Equipment</b>	Yes	No	N/A
1. Has the correct PPE been selected based on a hazard assessment or SDS recommendation?			
2. PPE required for laboratory work: ( ) Lab Coats, ( ) Safety glasses with side shields/goggles, ( ) Hearing protection, ( ) Face Shield, ( ) Proper foot-wear, ( ) Gloves, ( ) Aprons			
3. All necessary equipment is available, in good condition, and properly used.			
<b>C. Laboratory Fume Hoods</b>	Yes	No	N/A
1. Storage inside of hood is kept to a minimum.			
2. Equipment in use does not interfere with proper functioning of the hood.			
3. All work is done at least 6 inches inside hood.			
4. Front sash is lowered when hood is not in use.			
5. Certified annually by Facilities Management, semi-annually for Title 8 §5209 "listed" Carcinogens.			
6. Hood has continuous flow monitor.			
7. The back ventilation slot is not obstructed.			
8. Drains are protected from hazardous materials entering.			
<b>D. Biological Safety Cabinet</b>	Yes	No	N/A
1. Certified within the last year.			
2. Proper type of hood for work being conducted.			
3. Equipment is properly labeled for the hazard present (radiation, UV, ), Manufacturer approved for hazard.			
4. Hood ducted per manufacturer and ASHRAE requirements and meets the bio-safety specifications.			

Notes: \_\_\_\_\_

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<b>E. Compressed Gas Cylinders</b>	Yes	No	N/A
1. Cylinders stored in well protected, well vented and dry locations away from combustible materials.			
2. Flammable gases stored away from oxidizers.			
3. Cylinders are secured to a rigid structural component of the building with non-flammable restraints located 1/3 and 2/3 (preferred) or 1/2 the height of the cylinder.			
4. Protective caps in place while cylinders are in storage and full/empty tags attached.			
5. Proper regulators are being used and closed when cylinders are not in use.			
<b>F. Housekeeping &amp; Miscellaneous Laboratory Safety</b>	Yes	No	N/A
1. Bench tops clean, organized and environs maintained to eliminate harmful exposures or unsafe conditions.			
2. Supplies stored at minimum of 24 inches from ceiling and off the floor.			
3. Vacuum lines equipped with traps designed specifically to accumulate/filter the hazardous materials being evacuated.			
4. All moving machinery ( <i>i.e.</i> , vacuum pumps) belts adequately protected by a rigid belt guard or housing.			
5. All sharps disposed properly.			
6. The condition of the broken glass box is adequate and placed out of the way.			
7. Ceiling tiles present and in good condition.			
8. Refrigerators/freezers labeled according to use.			
<b>G. Electrical Safety</b>	Yes	No	N/A
1. High voltage equipment (>600V) labeled, grounded and insulated.			
2. No equipment has damaged or frayed cords.			
3. Extension cords are not connected together.			
4. Power strips used only if they are equipped with circuit breakers.			
5. All equipment is grounded via 3-prong plugs.			
6. Damaged equipment tagged out to prevent use.			
<b>H. General Safety</b>	Yes	No	N/A
1. Cabinets and bookshelves are secured.			
2. Overhead storage is minimized and restrained from falling ( <i>i.e.</i> , shelf lips, rails).			
3. Heavy equipment is secured or braced from falling.			

<b>I. Respiratory Protection</b>	Yes	No	N/A
1. Use of respiratory protection conforms to UC Davis Policy.			
2. Respirators are inspected monthly and before use.			

Notes: \_\_\_\_\_

3. The user has been fit tested by the Occupational Health Services.			
4. Cartridges are changed on designated schedule and are the appropriate cartridge for the hazard.			
<b>J. Laser Safety</b>	Yes	No	N/A
1. Does the laboratory use any Class 3b or 4 lasers?			
2. Are the lasers registered with EH&S Health Physics Program?			
3. Are the Standard Precautions for lasers prominently posted for each laser?			
4. Are appropriate warning signs and labels posted?			
5. Does the laboratory entrance have a warning light or lighted sign showing when the laser is in use?			
6. Have all workers attended the EH&S Laser Safety course?			
7. Does the laboratory have appropriate laser eyewear?			
<b>K. Non-Ionizing Radiation (NIR) Source</b>	Yes	No	N/A
1. Have proper warning signs been posted?			
<b>L. Emergency Planning &amp; Procedures</b>	Yes	No	N/A
1. Emergency Response Guide and evacuation map visibly posted and current.			
2. Chemical spill kit/cleanup materials available.			
3. Training in spill clean-up procedures provided and documented.			
4. First aid materials kept in adequate supply (in a sanitary and usable condition) and made readily available.			
<b>M. Fire Prevention</b>	Yes	No	N/A
1. Appropriate fire extinguisher mounted, unobstructed, available within 75 feet, in working order and inspected within the last year. A fire extinguisher should be available in a room containing flammable and/or combustible liquids.			
2. Fire extinguisher sign is clearly visible.			
3. 18-inch vertical clearance maintained from sprinkler head ( <i>i.e.</i> , over shelving).			
4. Are all laboratory doors kept closed? Closure devices in place?			
5. Storage of combustible material is minimized.			
<b>N. Exits</b>	Yes	No	N/A
1. Exits and aisles are clear and free of obstructions in case of emergency.			
2. Exit signs clearly visible.			

Notes: \_\_\_\_\_



## CAL/OSHA COMPLIANCE ASSISTANCE CHECK LIST - UCD

PI/Supervisor: \_\_\_\_\_ Lab Contact: \_\_\_\_\_ Performed by: \_\_\_\_\_

Date Inspected: \_\_\_\_\_ Lab Room Numbers: \_\_\_\_\_

A compliance assistance review for the above areas has been completed for possible CAL/OSHA inspection items with an assumed focus on pyrophoric concerns. This was not a comprehensive audit or inspection. An effort was made to at least briefly walk through every laboratory. However comprehensive condition reviews were not performed. More detailed and thorough inspections are recommended on a routine basis. Please address all identified corrective action recommendations that were not corrected during the compliance assistance review as soon as possible and report completion(s) to Debbie Decker ([dmdecker@ucdavis.edu](mailto:dmdecker@ucdavis.edu)).

ITEM	OK <sup>1</sup>	NA	Recommended Corrective Action(s)	Corrected During Review?	Comments
<b>General</b>					
<input type="checkbox"/> Evidence of a strong health and safety program					
<input type="checkbox"/> Evidence that work practices match written procedures					
<input type="checkbox"/> For any already identified deficiencies, written documentation including plan for correction and timeline.					
<b>Department specific – Injury and Illness Prevention Program (IIPP)</b>					
<input type="checkbox"/> All required elements					
<input type="checkbox"/> Completed and current documentation					
<input type="checkbox"/> Evidence of periodic inspections and/or hazard assessments					
<input type="checkbox"/> Evidence of investigations for any injuries, illnesses, accidents and follow-through					

<sup>1</sup> OK = acceptable, NA = Not applicable

ITEM	OK <sup>2</sup>	NA	Recommended Corrective Action(s)	Corrected During Review?	Comments
Lab specifics – Chemical Hygiene Plan (CHP)					
<input type="checkbox"/> All required elements					
<input type="checkbox"/> Completed and current documentation of CHP					
<input type="checkbox"/> Evidence of periodic inspections and/or hazard assessments (at least annual)					
<input type="checkbox"/> Evidence of investigations of any incidents, injuries, and follow through/corrective action					
Lab specifics - Pyrophorics					
<input type="checkbox"/> Handled per SOP					
<input type="checkbox"/> Training					
<input type="checkbox"/> Segregated and appropriate storage					
<input type="checkbox"/> Working alone policy and practices					
<input type="checkbox"/> Proper extinguishing media within arm's reach					
Lab specifics – Carcinogens					
<input type="checkbox"/> Chemical carcinogens safety protocols					
<input type="checkbox"/> Registered (CIS or otherwise)					
<input type="checkbox"/> Handled per SOP including regulated areas					
<input type="checkbox"/> Area postings					
<input type="checkbox"/> Monitoring records – any known or recent					
<input type="checkbox"/> Training					
Lab specifics – Training Records, Complete and Current					
<input type="checkbox"/> Chemical Hygiene Plan					
<input type="checkbox"/> SOPs					
<input type="checkbox"/> PPE hazard assessment and training					
<input type="checkbox"/> Carcinogens					
<input type="checkbox"/> Fume Hood (UCD online training, required once)					
<input type="checkbox"/> Other lab-specific					

<sup>2</sup> OK = acceptable, NA = Not applicable

ITEM	OK <sup>3</sup>	NA	Recommended Corrective Action(s)	Corrected During Review?	Comments
Lab specifics – Lab Conditions/Walk-through					
<input type="checkbox"/> Conditions consistent with written programs and policies					
<input type="checkbox"/> PPE properly worn, stored, and handled properly					
<input type="checkbox"/> Chemical storage					
<input type="checkbox"/> Chemical labeling					
<input type="checkbox"/> Any identified lab hazards					
<input type="checkbox"/> General housekeeping					
<input type="checkbox"/>					
Lab specifics – Emergencies					
<input type="checkbox"/> Emergency plan available and current					
<input type="checkbox"/> Appropriate postings and current (floor plan, muster site, contacts)					
<input type="checkbox"/> Know what to do if chemical spill (Safety Net #13)?					
<input type="checkbox"/> Spill kits available and appropriate					
<input type="checkbox"/> Fire extinguishers, safety showers and eyewashes					
Lab specifics – Employee Interviews					
<input type="checkbox"/> Feel safe?					
<input type="checkbox"/> Any health or safety concerns?					
<input type="checkbox"/> Understand hazards and requirements?					
<input type="checkbox"/> Show how to access SDSs and have ready access?					
<input type="checkbox"/> Do you ever work alone?					
<input type="checkbox"/> Do you know how to report a safety or security concern?					
<input type="checkbox"/>					

Additional Comments:

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<sup>3</sup> OK = acceptable, NA = Not applicable

## **Appendix B – Job Safety Analysis**

- A. Laboratory Worker (includes Dispensary Staff)  
Office Worker
- B. Glassblower

## Laboratory Worker Job Safety Analysis

Job Function	Potential Health or Injury Hazard	Safe Practice, Apparel, or Equipment
Performing work in laboratories containing chemicals.	Exposure to chemicals via inhalation, contact, ingestion or injection.	Avoid all unnecessary exposures. Reduce exposures that cannot be avoided by minimizing exposure duration and concentration. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. All personnel to receive lab-specific training (Chemical Hygiene Plan) and laboratory safety training including Fundamentals of Lab Safety (or equivalent), Hazardous Waste Management and Minimization Training and other applicable courses before beginning work.
Performing work in laboratories containing radiological materials.	Exposure to radiological agents via inhalation, contact, ingestion or injection.	Avoid all unnecessary exposures. Adhere to radiological material handling procedures including limiting exposures through combination of minimizing time, maximizing distances and use of appropriate shielding. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. Participation in radiological monitoring program including dosimetry. All personnel to receive laboratory-specific training, Radiation Safety training and other applicable courses before beginning work.
Performing work in laboratories containing biological materials.	Exposure to biological agents via inhalation, contact, ingestion or injection.	Avoid unnecessary exposures. Proper selection and use of personal protective equipment including gloves, protective eyewear, lab coats, and in some instances respiratory protection. Proper adherence to blood borne pathogen handling protocols. Implementation of proper personal hygiene habits, including washing hands and face before eating and smoking. Voluntary participation in Hepatitis B vaccination program. Proper adherence to biological waste handling procedures. All personnel to attend EH&S Blood borne Pathogen Program training before beginning work. Participation in Facilities- specific medical clearances as required.
Performing work in laboratories, shops and spaces containing physical hazards.	Injury from physical hazards including high voltage, lasers and ultraviolet light, compressed gases and liquids, cryogenic materials, and specialized equipment as well as falling objects.	Avoid unnecessary exposures. Proper selection and use of personal protective equipment including gloves, protective eyewear and specialized equipment. Employees are not to enter restricted areas unless accompanied by a properly trained individual familiar with the hazards of the area. Employees are not to operate specialized equipment without proper training and documentation. Watch for overhead hazards and wear head protection if needed. Personnel routinely entering or working in areas where lasers are used will receive laser safety training before beginning work.
Handling and moving heavy items and equipment.	Ergonomic hazards including heavy lifting, repetitive motions, awkward motions, crushing or pinching injuries etc.	Get help with all loads that cannot be safely lifted by one person. Use mechanical means to lift and move heavy items, push carts and dolly rather than pull, attend back safety class, employ proper lifting techniques at all times. Set up work operations as ergonomically safe as practical. Wear proper hand and foot protection to protect against crushing or pinching injuries.

General office work	Back strain, eyestrain, repetitive motion injury. Physical injuries due to slips, trips and falls, and falling objects. Electrical hazards. Physical injuries due to fires, earthquakes, bomb threats and workplace violence.	Ensure that workstations are ergonomically correct. Keep floors clear of debris and liquid spills. Keep furniture, boxes, etc. from blocking doorways, halls and walking space. Do not stand on chairs of any kind, use proper foot stools or ladders. Do not store heavy objects overhead. Do not top load filing cabinets, fill bottom to top. Do not open more than one file drawer at a time. Brace tall bookcases and file cabinets to walls. Provide one-inch lip on shelves. Do not use extension cords in lieu of permanent wiring. Ensure that high wattage appliances do not overload circuits. Use GFIs in receptacles in potentially wet areas. Replace frayed or damaged electrical cords. Ensure that electrical cords are not damaged by being wedged against furniture or pinched in doors. Attend emergency action and fire prevention plan training including emergency escape drills.
Exposure to noise hazards	Hearing loss due to noise exposure	Voluntarily participate in the Hearing Conservation Program. Use hearing protection as required.
Performing work in laser laboratories.	Potential exposure to specular or diffuse reflections.	Avoid all unnecessary exposures to Class 3b and 4 laser beams. Intrabeam viewing is strictly forbidden at UC Davis. Proper laser safety eyewear is mandatory when the laser is activated unless the beam has been enclosed which effectively changes the class of the laser to a Class 1 (eye safe). When aligning the laser, power down with a visible beam, preferably a Class 3a HeNe. Alignment eyewear is available but once the laser is aligned do not assume that it is eye safe, wear your laser safety eyewear. When choosing proper eye protection one must take into account the power or energy and the wavelength of the laser or laser system. Contact the campus Laser Safety Officer to calculate the Optical Density for your eyewear or check with your Principle Investigator. Employees are not to operate lasers or laser systems without proper training and documentation. Employees or visitors must take the UC Davis Laser Safety Class and be trained on the specific laser they will be using. A Standard Operating Procedure must be in place for each laser or laser system before use. Be aware that there are ancillary hazards associated with the laser and take appropriate precautions.
Performing work with X-ray machines and in X-ray facilities.	Exposure to X-rays, chemical and biological agents via inhalation, contact, ingestion or injection.	Avoid all unnecessary exposures through ALARA principles (time, distance, shielding). Participate in radiological monitoring program including dosimetry. Proper selection of personal protective equipment including lead aprons and gloves.

## Office Worker Job Safety Analysis

Job Function	Potential Health or Injury Hazard	Safe Practice, Apparel, or Equipment
General office work.	Backstrain, eyestrain, repetitive motion injury.	Ensure that workstations are ergonomically correct.
	Physical injuries due to slips, trips and falls, and falling objects.	Keep floors clear of debris and liquid spills. Do not stand on chairs of any kind, use proper foot stools or ladders. Do not store heavy objects overhead. Do not topload filing cabinets, fill bottom to top. Do not open more than one file drawer at a time. Brace tall bookcases and file cabinets to walls. Provide one-inch lip on shelves.
	Electrical hazards.	Do not use extension cords in lieu of permanent wiring. Ensure that high wattage appliances do not overload circuits. Use GFIs in receptacles in potentially wet areas. Replace frayed or damaged electrical cords. Ensure that electrical cords are not damaged by being wedged against furniture or pinched in doors.
	Physical injuries due to fires, earthquakes, bomb threats and workplace violence.	Attend emergency action and fire prevention plan training including emergency escape drills. Attend Workplace Violence training offered by UC Davis Police Department.

## JOB SAFETY ANALYSIS – GLASS SHOP

<b>JOB TASK: Oven</b>	<b>DATE EFFECTIVE: 4/30/2013</b>
<b>DIVISION: Glass Shop</b>	<b>ANALYSIS MADE BY: James Smithers</b>
<b>EMPLOYEE TITLE: Glassblower</b>	<b>SUPERVISOR: James Smithers</b>

SEQUENCE OF STEPS	EQUIPMENT USED	POTENTIAL HAZARDS	RECOMMENDED SAFE PROCEDURES
Set temperature of oven for annealing	Hot gloves	Burns	Begin loading before oven reaches desired temperature
Load glassware into oven	Leather gloves	Cuts and punctures	Wear leather gloves and use care when loading and unloading to minimize breakage
Set oven for length of time to anneal			
When oven is done, turn off oven and remove items from oven	Leather gloves		Leather gloves

<b>JOB TASK: Diamond Saw</b>	<b>DATE EFFECTIVE: 4/30/2013</b>
<b>DIVISION: Glass Shop</b>	<b>ANALYSIS MADE BY: James Smithers</b>
<b>EMPLOYEE TITLE: Glassblower</b>	<b>SUPERVISOR: James Smithers</b>

<b>SEQUENCE OF STEPS</b>	<b>EQUIPMENT USED</b>	<b>POTENTIAL HAZARDS</b>	<b>RECOMMENDED SAFE PROCEDURES</b>
Make sure guards are in-place.	Metal saw using diamond blade Eye Protection Arm Sleeves Rubberized Body Apron	Hand punctures due to broken glass Catastrophic failure of glassware or saw blade Foreign bodies or flying particles in eyes	Wear safety glasses
Lubricate shafts regularly			Wear safety glasses
While wearing safety glasses, turn the saw on and rotate glass slowly in trough			Wear safety glasses
Turn off saw when finished			Wear safety glasses

<b>JOB TASK: Fuel Cylinders</b>	<b>DATE EFFECTIVE: 4/30/2013</b>
<b>DIVISION: Glass Shop</b>	<b>ANALYSIS MADE BY: James Smithers</b>
<b>EMPLOYEE TITLE: Glassblower</b>	<b>SUPERVISOR: James Smithers</b>

<b>SEQUENCE OF STEPS</b>	<b>EQUIPMENT USED</b>	<b>POTENTIAL HAZARDS</b>	<b>RECOMMENDED SAFE PROCEDURES</b>
Using a cylinder cart, roll cylinder into place, making sure safety cap is on cylinder before moving.	Gas and oxygen regulators High pressure hoses	Falling cylinder. Leaky valves or regulators Worn or frayed pressure hoses	Always use a cart to move cylinders. Check daily for leaks Always inspect hoses prior to each use
Strap cylinders securely to wall or fixed counter. Metal chains are best.			Always make sure cylinder is secured against slipping or tipping over
Always have spark arresters in place		Injury to eye via burn or foreign body or flying particles in eye Burns due to working with hot material	Wear appropriate welding glasses, helmet and or safety glasses Wear leather gloves when handling hot material
Turn off regulator when not in use			If cylinder won't be in use for a period of time (> one week), remove regulator and replace safety cap.

<b>JOB TASK: Lathe</b>	<b>DATE EFFECTIVE: 4/30/2013</b>
<b>DIVISION: Glass Shop</b>	<b>ANALYSIS MADE BY: James Smithers</b>
<b>EMPLOYEE TITLE: Glassblower</b>	<b>SUPERVISOR: James Smithers</b>

<b>SEQUENCE OF STEPS</b>	<b>EQUIPMENT USED</b>	<b>POTENTIAL HAZARDS</b>	<b>RECOMMENDED SAFE PROCEDURES</b>
Put on PPE	Eye Protection Heat-resistant Gloves Carriage burner Hand torch Lathe	Cuts Burns Fire	Wear leather gloves Wear eye protection Keep area clear and clean of all solvents
Turn on overhead exhaust ventilation  Set burner carriage and set hand torch		Cuts Burns Fire	Wear leather gloves Wear eye protection ( 2 different types of safety glasses worn; didymium for working with Pyrex and welders goggles/glasses #6 & #8 when working with quartz) Keep area clear and clean of all solvents
Set rotation speed (low speed, low torque lathe for turning glass and not removing material as in a metal lathe – no risk of entanglement)		Cuts Burns Fire	Wear leather gloves Wear eye protection Keep area clear and clean of all solvents
Fabricate glass component		Cuts Burns Fire	Wear leather gloves Wear eye protection Keep area clear and clean of all solvents
When finished stop lathe and turn off hand torch		Cuts Burns Fire	Wear leather gloves Wear eye protection Keep area clear and clean of all solvents

**JOB TASK: Hydrofluoric Acid Baths**

**DATE EFFECTIVE: 04/30/2013**

**DIVISION: Glass Shop**

**ANALYSIS MADE BY: James Smithers**

**EMPLOYEE TITLE: Glassblower**

**SUPERVISOR: James Smithers**

***NOTE: Hydrofluoric acid is a very dangerous corrosive material and can cause serious and even fatal injuries.***

<b>SEQUENCE OF STEPS</b>	<b>EQUIPMENT USED</b>	<b>POTENTIAL HAZARDS</b>	<b>RECOMMENDED SAFE PROCEDURES</b>
Keep baths under canopy hood and make sure the hood is operating properly.	Polypropylene Baths (HF must not be stored in glass containers) Eye Protection (Goggles or goggles and faceshield) Neoprene Gloves Arm Sleeves Rubberized Apron Plastic wash containers Stainless set up trays	Splash to face and hands Chemical burns Hazard to eye	Goggles and face shield while mixing and placing items in baths Wear hand and arm protection (rubber gloves and arm sleeves) Wear eye protection Wash and clean up when finished making sure area is dry and clean
Remove lid from bath	Eye Protection Neoprene Gloves Arm Sleeves Rubberized apron	Splash to face and hands Chemical burns Hazard to eye	Wear hand and arm protection (rubber gloves and arm sleeves) Wear eye protection
Dip parts in bath using correct strainer bucket	Eye Protection Neoprene Gloves Arm Sleeves Rubberized apron	Splash to face and hands Chemical burns Hazard to eye	Wear hand and arm protection (rubber gloves and arm sleeves) Wear eye protection

Remove parts to clean water bath, using polypropylene dipping basket	Eye Protection Neoprene Gloves Arm Sleeves Rubberized apron	Splash to face and hands Chemical burns Hazard to eye	Wear hand and arm protection (rubber gloves and arm sleeves) Wear eye protection
Rinse parts 3 times	Eye Protection Neoprene Gloves Arm Sleeves Rubberized apron	Splash to face and hands Chemical burns Hazard to eye	Wear hand and arm protection (rubber gloves and arm sleeves) Wear eye protection
Rinse out containers	Eye Protection Neoprene Gloves Arm Sleeves Rubberized apron	Splash to face and hands Chemical burns Hazard to eye	Wear hand and arm protection (rubber gloves and arm sleeves) Wear eye protection
Put lid back on acid bath when done	Eye Protection Neoprene Gloves Arm Sleeves Rubberized apron	Splash to face and hands Chemical burns Hazard to eye	Wear hand and arm protection (rubber gloves and arm sleeves) Wear eye protection Wash and clean up when finished making sure area is dry and clean

## PPE Hazard Assessment for Glass Shop

Supervisor: James Smithers

Area: Glass Shop – Chemistry Bldg

Date: 4/30/2013

<b>PPE</b>	<b>REQUIRED</b>	<b>SPECIFICATIONS</b>
1.SAFETY GLASSES	<b>YES</b>	Always wear safety glasses in the glass shop
2. SAFETY GOGGLES GOGGLES/FACE SHIELD	<b>AS REQUIRED</b>	When using HF, Goggles are required. Goggles and face shield, if necessary.
3.SAFETY SHOES	<b>NO</b>	Safety shoes not required. Leather shoes are required
4.HEARING PROTECTION	<b>NO</b>	
5.HAND/BODY PROTECTION	<b>YES</b>	Leather (Hot) gloves Chemical-resistant gloves/apron/arm sleeves when using HF
6.RESPIRATORS	<b>NO</b>	

COMMENTS: All employees must follow all safe operating procedures and wear all necessary PPE.

I certify that a hazard assessment to determine if hazards are present that necessitate the use of personal protective equipment was conducted on this process on Mo/DT/Year.

Signed \_\_\_\_\_

## **Appendix C: Students With Disabilities Guidelines**

*The appended Guideline is intended to help Dispensary Staff, TAs, Course Instructors, and PIs elucidate how best to accommodate a student with disabilities in the teaching and research lab. This is not intended as a substitute or to supplant accommodations recommended by the Student Disability Center. The student desiring accommodation needs to approach the Staff, TA or PI – it's not up to the Staff, TA or PI to presume an accommodation will be requested. If the student presents with a service animal, be sure to have the person meet with the Department Safety Manager, and read and sign the information sheet for service animal users.*

## **Accommodating Students with Disabilities in Chemistry Teaching Laboratories**

### **Guidance for Dispensary Staff, TAs and Course Instructors**

**Scope:** This guidance applies to Chemistry Department staff who deal with students who have disabilities (permanent or temporary) or who need a service animal. It is not intended to substitute for student interaction with the Student Disability Center (SDC). All students with disabilities are encouraged to access the services available through the SDC. This guideline is intended for teaching laboratory staff but may be used for research laboratory applications, as well.

**Goal:** It is the intent of the Chemistry Department to help all students be safe and successful in the teaching laboratories. This goal applies to service animals, as well. To that end, it's important the Department understand the needs of the student and accommodations requested by the student. If a service animal is used, the Staff need to understand how the animal has been trained to help. Service animals are precious and beloved and we want to protect them as best we can.

**Safety Equipment:** Basic Personal Protective Equipment (PPE) required of all persons in Chemistry teaching and research laboratories:

Long pants or skirt to completely cover the legs. Leggings, nylons or tights are not sufficient protection.

Closed shoes that cover the entire foot.

Laboratory coat, sized properly to cover the wrist, arms and chest and the top of the thighs, when seated. A student who works from a seated position should also have a chemical-resistant apron.

Service animals entering laboratories must be similarly protected to prevent exposure to hazardous chemicals, broken glass or other hazards that might be present in the laboratory environment. Booties to cover the feet (an option here: <http://preview.tinyurl.com/jwgdsqu>) and a disposable lab coat (Maytex coats are considered disposable), provided by the owner. The Department Dispensary Staff will make available plastic-backed absorbent paper for the animal to lie on during lab to protect the animal from whatever might be on the floor. Animal beds or fabric pads are not appropriate for use in the lab.

**Note:** If the disability is temporary, such as the use of crutches, an arm cast or similar, the student should meet with the Department Safety Manager and discuss PPE options and recommended accommodations to temporarily manage the disability while the student heals. Is it reasonable for the student to drop the class and return when healed and strong? The student would have a better chance to do be successful in class when healthy and free of distractions.



**Needs Assessment (for use by Dispensary Staff, TAs, Course Instructors or PIs)**

**Student Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Staff Person:** \_\_\_\_\_

If the student presents a permanent disability, with a service animal or not, the following questions should be asked:

1. Have you met with the Student Disability Center and what were their recommendations for you?

2. What accommodations are you requesting in the lab class context?

3. Have you worked in a lab setting before?  Yes  No

a) If yes, what course/program? \_\_\_\_\_

b) Did you learn any new/useful adaptive techniques you can show us?

c) What equipment modifications were made for you?

4. Can you stand for a period of time in the lab?  Yes  No  NA

a) Do you require a stool to be readily available to you?  Yes  No  NA

b) Does the stool have to have a back on it?  Yes  No  NA

5. Can you lift your arms to be able to use tall lab equipment?  Yes  No  NA

6. Can you see well enough to collect data, read a thermometer, digital balance readout, etc.?

Yes       No       NA

a) Do you require a lab assistant (funded by SDC)?  Yes       No       NA

7. Can you hear well enough to be alerted to an emergency in the lab, an unexpected occurrence with your experiment, and communicate clearly with your lab partner?  Yes       No       NA

8. Do you have tools (such as readers/magnifiers, gripper/grabbers, etc.) you plan to bring to class?

Yes       No       NA

a) Please describe.

9. Do you require assistance to carry items that might weigh over a pound or two?

Yes       No       NA

a) Do you require assistance to turn knobs, open jars, hold and use small items (spatula, small beakers or flasks), etc.?  Yes       No       NA

**If you're a wheelchair user:**

a) Do you require a lower counter height?  Yes       No       NA

b) Can you lift your arms to use or access lab equipment on the counter?

Yes       No       NA

c) Can you collect data in a format so the data can be easily shared with your lab partner?

Yes       No       NA

d) Do you require a lab assistant? (funded by SDC)  Yes       No       NA

**If you use a service animal:**

*The "Information for Service Animal Users" sheet must be provided, discussed and signed.*

a) Do you require the animal to be with you at all times or only under certain circumstances?

- Yes       No       circumstance?

What are those circumstances?

b) Do you need a place for the animal to stay while you're in lab and not needing the animal at that time?

- Yes       No       NA

c) If you need the animal to be brought to you while you're in lab, what are those circumstances?

d) What work is the animal trained to do for you?

e) How does the animal alert?

f) What should the TA or Dispensary Staff do if the animal alerts?



## INFORMATION FOR SERVICE ANIMAL USERS

The Chemistry Department is committed to your safety and success in laboratory and if that success includes the use of a service animal, to make sure your animal is also safe and secure. Laboratories are dangerous places. Hazardous chemicals, open flames, glassware, and electrical equipment are all in use. It is not a good environment for a beloved and precious animal.

If you require the use of a service animal in the laboratory, staff have been trained to ask you a series of questions to determine how best we can safely facilitate the presence of your animal. These questions are not intended to prevent you from having your animal in lab, but rather so we understand how best to accommodate your needs and the needs of your animal. The following equipment and behavior expectations are required for your animal's safety and for the safety of the other laboratory occupants.

**Personal Protective Equipment:** Service animals entering laboratories must be similarly protected to prevent exposure to hazardous chemicals, broken glass or other hazards that might be present in the laboratory environment. Booties to cover the feet (an option here: <http://preview.tinyurl.com/jwgdsqu>) and a disposable lab coat (Maytex are considered a disposable coat), provided by the owner. The Department Dispensary Staff will make available plastic-backed absorbent paper for the animal to lie on during lab to protect the animal from whatever might be on the floor. Animal beds or fabric pads are not appropriate for use in the lab.

For kennel-trained service animals, a lightweight kennel might be appropriate. Please discuss with Staff the option of a kennel.

**Behavior Expectations:** If the service animal is present in lab, the animal must be trained to "stay" and "leave it" (or equivalent behavior). The animal must not vocalize, bark, or growl inappropriately. If the animal is trained to alert by vocalizing, the Dispensary Staff must be aware of the circumstances under which the animal would vocalize. Disruptive, extended vocalizing or barking will not be permitted, unless in proper context. The animal must not behave aggressively towards other people – snapping, snarling, growling, charging, swiping, etc. The animal must not jump up on other people. The people in the laboratory will be informed that the animal is a service animal and always working. Interaction with the animal is by permission of the owner and only outside of the laboratory.

If the service animal displays any of these behaviors, the animal will not be permitted in the laboratory until documented and demonstrated re-training has occurred.

I have read and agree to these stipulations and requirements.

Name (Print): \_\_\_\_\_

Signature: \_\_\_\_\_

Classroom or Research Laboratory: \_\_\_\_\_

Staff Member Signature: \_\_\_\_\_ Date \_\_\_\_\_

## **Appendix D: Building Access Plan for Undergraduate Researchers**

*Under defined circumstances, undergraduate researchers may be permitted access to the building after hours or during times of minimal staffing. The following plan documents the conditions and constraints under which undergraduates may accomplish research during these times. This plan should be filled out in conversation with the PI and the undergraduate researcher's mentor. A fillable pdf form is available on the Chemistry Department website.*

## **Building Access Plan for Undergraduate Researchers.**

*This Plan includes all undergraduate researchers, whether or not they are compensated.*

It's important to maintain good building security and suitable oversight of undergraduates who work in research laboratories. It's also important to be able to schedule lab work to coincide with the research needs of the laboratory. It is the responsibility of the Principal Investigator to properly supervise her/his laboratory workers and to assure building access by undergraduate researchers is granted appropriately.

In the context of this Access Plan, provisions for working alone must also be discussed, specific to undergraduate researchers. A general Working Alone SOP must be in place for the lab and all laboratory workers must have documented training on its contents. Undergraduate researchers must have the same training as other laboratory workers, including SOPs and laboratory safety plan, and must be included in the laboratory LHAT. Additionally, undergraduate researchers must have a period of close mentoring and be able to demonstrate competence to perform assigned tasks before being issued a building key or allowed to work alone. Regular meetings between the undergraduate researcher, PI and the researcher's mentor are expected to make sure the permissions and prohibitions in this Plan are still valid. Before new projects or techniques are attempted, they must be approved by mentor and PI, after another period of close mentoring and demonstrated competence.

Dispensing, manipulating, or quenching pyrophoric materials is prohibited while alone in the laboratory. Using acutely toxic gases is prohibited while working alone in the laboratory. Minors are not allowed to work alone in the laboratory under any circumstances. Other prohibitions may be described in the lab's Working Alone SOP and must be communicated to the undergraduate researcher.

### **Building Access (including a building key) is granted to:**

**Name:** \_\_\_\_\_

This person is permitted to work the following days/hours without direct supervision:

**Day:** \_\_\_\_\_ **Hours:** \_\_\_\_\_

**Day:** \_\_\_\_\_ **Hours:** \_\_\_\_\_

This person is working on the following projects and using the following techniques:

This person is NOT permitted to engage in the following laboratory activities/processes/projects and/or use the following chemicals without direct

supervision:

**Attestation:**

I attest the above-named person has been trained and is capable of performing the assigned activities and using the listed chemicals without direct supervision, work independently or alone. This person has accomplished the “Fundamentals of Laboratory Safety Training” (and other trainings as required by me), been mentored by a senior lab worker, and demonstrated their competence to carry out assigned activities.

**Principal Investigator:** \_\_\_\_\_

**Date:** \_\_\_\_\_

*This Access Plan expires on or about \_\_\_\_\_ (date), at which time this form must be reviewed and updated, if necessary. Non-compliance with the provisions of this Access Plan will result in access being denied, keys retrieved, and may result in disciplinary action in accordance with campus policy. Before new projects or techniques are attempted, they must be approved by mentor and PI, after another period of close mentoring and demonstrated competence. Form must be updated to reflect new duties.*

*The Access Plan must be included with the laboratory’s safety documents.*