SECTION I

HAZARDOUS SUBSTANCE PROGRAM

Revised 9/19

1.0 School districts written hazardous substance communication program.

1.1 District employees will receive Hazardous Communication training annually.

1.1.1 Online hazardous communication training

1.1.2 Training included as districts annual training.

1.2 School site chemical inventory will include:

1.3 Container labeling to include substances on inventory and new purchases. A plan of action if unlabeled container is found.

1.4 Safety Data Sheets (SDS) will be available for all chemicals in the school district inventory.

1.5 School districts will use the disciplinary procedures in Section A, Part 4.0 for employees who do not comply with rules regarding hazardous substances.

1.6 School districts will provide training when information about a substance becomes available.

2.0 Inspections

2.1 Survey existing facilities to identify kinds and quantities of chemicals, conditions of storage and unstable materials for disposal.

2.2 Review laboratory experiments and maintenance process for use of toxic chemicals and determine which ones have the potential for significant staff or student exposure. Identify if engineering controls, if fume hoods or ventilation systems are required.

2.3 Listing of all hazardous substances by building at each site.

2.4 Identify unstable materials and quantify all materials in preparation for disposal.

2.5 Survey chemical use facilities to determine if they meet minimum safety standards.

3.0 Employee Training Program

3.1 Obtain SDSs for all substances on inventory through the company where the item is purchased, or utilize the on demand services provided by 3E Company phone number 800-451-8346.

3.2 Post listing of hazardous substances at each workplace and advise of the location and availability of the SDSs.

3.3 Provide employees a sample SDS for each "group type" of hazardous substance and explain how

to read, interpret and understand the information in the SDS.

3.5 Group types: Flammable
Corrosive
Toxic
Reactive
Miscellaneous

3.6 Explain to employees how they can obtain an SDS from the district files.

3.7 Employees within the Santa Barbara County Schools are enrolled in our 3E MSDS/SDS on Demand Program. The toll-free number for SDS retrieval and maintenance is (800) 451-8346.

4.0 Purchasing Training

4.1 Control what materials are purchased and the quantity. District should establish a goal of only purchasing enough for each school year. Avoid storage, age and label problems.

4.2 Obtain SDS for each order or do not accept the shipment.

4.3 Post revised hazardous substance list at each work place affected by the purchase.

4.4 Set strict guidelines for acceptance of "donations" to be sure of the age, quantity and nature of the substance. It may be illegal moving the substance from one location to another. Require SDSs for all "donations."

5.0 Disposal

5.1 Disposal must be done by a person who has the proper knowledge of laws, local/federal, training and proper protective equipment.

5.2 Substances must be identified, segregated by classification, and quantified.

5.3 Contract licensed disposal firm. Disposal firm will not pick up the material, etc., until the volume number and sizes of containers is known, and the district has an Environmental Protection Agency and Environmental Health Services Waste permit in place.

5.4 Districts should contact SIPE safety for recommended disposal procedures and solicitation of authorized hazardous material disposal handlers.

5.5 Problem areas include:

Custodial, Food Service, Science, Industrial Arts & Fine Arts, Grounds, Maintenance & Warehouse, Transportation, Swimming Pools

6.0 Toxic Art Supplies

6.1 Identify unstable art or craft materials which cannot be used in Kindergarten through eighth grades.

6.2 Identify materials which have been taken off the market but might still be used or stored in some schools.

6.3 Identify if art or craft materials have Certified Products or Approved Products Nontoxic seals.

6.4 Training sessions concerning toxic art supplies shall be conducted for industrial arts, fine art teachers and purchasing departments.

7.0 Labeling

7.1 School districts can use the NFPA or other means of labeling as long as it meets the requirement in paragraph 7.3 and 7.4.

7.2 All secondary containers will have a NFPA label identifying its contents if containers were not labeled/stenciled by the manufacturer.

7.3 Container labeling will identify the hazardous substance and appropriate warnings.

7.4 Labels shall be legible, in English. Other languages may be added.

8.0 Safety Data Sheets (SDS)

8.1 Schools in the Santa Barbara County will use the MSDS/SDS on Demand program for SDS questions, filing and printouts.

9.0 Chemical Hygiene Plan for School Science laboratories

9.1 All schools with a Science laboratory must have a Chemical Hygiene written plan, and a designated chemical hygiene officer

9.2 Chemical Hygiene written plan sample

LABORATORY CHEMICAL HYGIENE PLAN

A. GENERAL PRINCIPALS FOR WORKING WITH LABORATORY CHEMICALS

This Laboratory Chemical Hygiene Plan is mandatory. The procedures, personal protective equipment and other elements of this Chemical Hygiene Plan are designed to minimize exposures. All teachers and students must comply with the precautions and rules outlined below at all times.

The following general principals apply to the use of chemicals in_____science laboratories.

1. It is prudent to **minimize all chemical exposures**. Inhalation, ingestion and skin contact with chemicals or biological materials should be avoided.

2. **Avoid underestimation of risk:** Exposures should be minimized even for substances of no known significant hazard. Special precautions should be

used for work with substances that present special hazards. It should be assumed that any mixture will be more toxic than its most toxic component and that all substances of unknown toxicity be considered toxic.

3. **Provide adequate ventilation:** Fume hoods and other exhaust ventilation devices should be used properly to prevent exposure to airborne substances.

4. **PELs, TLVs**: OSHA has provided a list of permissible exposure limits (PELs) for a number of chemicals. The American Conference of Governmental Industrial Hygienists (ACGIH) has provided Threshold Limit Values (TLVs) for many chemicals.

B. CHEMICAL HYGIENE RESPONSIBILITIES

Responsibility for this laboratory chemical hygiene plan is assigned to the following individuals:

1. **_____, of_____is responsible for chemical hygiene in the Science Department.**

2. **_____, as laboratory chemical hygiene officer, is responsible for the following:**

   (a) Implement and revise this chemical hygiene plan, policies and practices.

Maintain an awareness of current requirements concerning regulated substances.

(b) Monitor purchasing, use, and disposal of chemicals and biological materials used in these laboratories.

(c) Assure appropriate records are maintained (training, audit reports, injury reports etc.).

(d) Insure that faculty, staff and students know and follow the chemical hygiene rules.

(e) Provide regular formal laboratory hygiene and housekeeping inspections including routine inspections of any emergency equipment required by this plan for this laboratory.

(f) Determine the required or appropriate levels of protective apparel and equipment. Make sure protective equipment is available, in working order, used properly, and that adequate training is provided for its use.

(g) Ensure that facilities and training for use of any new materials being ordered are adequate.

(h) Seek ways to improve the hygiene plan.

3. Students and laboratory staff are responsible for:

(a) Planning and conducting each experiment in accordance with the general practices developed by the California Department of Education and the procedures in this laboratory chemical hygiene plan.

(b) Developing and practicing good personal chemical and biological hygiene habits.

C. THE LABORATORY FACILITY

1. Design: All laboratories are designed in accordance with accepted laboratory standards. No room shall be converted into a laboratory for the use of chemical or biological materials until reviewed by the chemical hygiene officer and other appropriate safety personnel.

D. COMPONENTS OF THE LABORATORY CHEMICAL HYGIENE PLAN

1. <u>Basic rules and procedures</u>. The following general principals should be used for essentially all laboratory work with chemicals:

(a) Accidents and Spills

- **Eye Contact:** Promptly flush eyes with water for a minimum period (15 minutes) and seek medical attention.

- **Ingestion:** Encourage the victim to drink large amounts of water and seek medical attention.

- **Skin Contact:** Promptly flush the affected area with water (15 minutes) and remove any contaminated clothing. Seek medical attention.

- **Spills:** Contact the District Maintenance and Operations Manager at 805-686-3572 during working hours or 911 after hours for emergency spill response.

(b) **Avoidance of "routine" exposure**: Develop and practice safe habits that avoid unnecessary exposure to chemicals by any route:

- Do not smell or taste chemicals.

- Vent apparatus that may discharge toxic chemicals (vacuum pumps, distillation columns, etc.) into local exhaust devices.

- Inspect gloves before use.

- Do not allow toxic substances to be released in cold rooms and warm rooms, since these have contained, recirculated atmospheres.

(c) **Choice of chemicals**: Use only those chemicals for which the quality of the available ventilation system is appropriate.

(d) **Eating, drinking, smoking**:

- Eating, drinking, smoking, handling contact lenses and applying cosmetics is strictly prohibited in areas where hazardous laboratory chemical or biological materials are used or are intended for use.

- Storage of food and beverage in containers or in areas that are intended or are used for storage of hazardous laboratory materials is prohibited.

(e) **Equipment and glassware:** Handle and store laboratory glassware with care to avoid damage.

- Inspect glassware before each use and do not use damaged glassware.

- Use extra care with dewar flasks and other evacuated glass apparatus. Shield or wrap them to contain chemicals and fragments should implosion occur.

- Use equipment only for its designed purpose.

(f) **Exiting**: Wash areas of exposed skin well before leaving the laboratory.

(g) **Horseplay:** Avoid practical jokes or other behavior that might confuse, startle or distract another worker.

(h) **Mouth suction**: Do not use mouth suction for pipeting or starting a siphon.

(i) **Personal apparel**: Confine long hair and loose clothing. Wear shoes at all times in the laboratory but do not wear clogs, sandals, perforated or cloth shoes.

(j) **Personal housekeeping**: Keep the work area clean and uncluttered, with chemicals and equipment properly labeled and stored. Clean up the work area on completion of an operation or at the end of each day.

(k) **Personal protection**: Assure that all persons, including visitors, wear appropriate eye protection where chemicals and biological agents are stored or handled.

- Wear appropriate gloves when the potential for contact with toxic materials exists. Inspect the gloves before each use and replace them periodically or when damaged.

- Use of low protein, non-powdered latex gloves is recommended to help reduce the risk of latex allergies. Contact Environmental Health and Safety if any lab personnel have an allergic reaction to latex gloves.

- Use appropriate respiratory equipment when air contaminant concentrations are not sufficiently restricted by engineering controls. The Environmental Health and Safety Office will determine if respiratory protection is required.

- Use any other protective and emergency apparel and equipment as appropriate.

- Avoid use of contact lenses in the laboratory unless necessary. If they are used, inform the supervisor so special precautions can be taken. At a minimum, chemical splash goggles must be worn with contact lenses.

- Remove laboratory coats immediately upon significant contamination.

(l) **Planning**: Seek information and advice about hazards before starting an experiment. Plan appropriate protective procedures, and positioning of equipment before beginning any new operation.

(m) **Unattended operations**: Leave lights on, place an appropriate sign on the door, and provide for containment of toxic substances in the event of failure of a utility service (such as cooling water) to an unattended operation.

(n) **Use of fume hood:** Use the fume hood for operations that might result in release of toxic chemical vapors or dust.

- As a rule of thumb, use a fume hood or other local ventilation device when working with any appreciably volatile substance with a TLV of less than 50 ppm.

- Confirm adequate fume hood performance before use. Keep the fume hood sash closed at all times except when adjustments within the fume hood are being made.

- Hazardous materials should be used 6 inches within the sash of the fume hood.

- Never use a fume hood to store chemicals. If it becomes absolutely necessary to store chemicals in a fume hood, leave the fume hood "on".

(o) **Vigilance:** Be alert to unsafe conditions and see that they are corrected when detected.

(p) **Waste disposal:** Ensure that the plan for each laboratory experiment includes a plan for waste disposal in accordance with applicable regulations.

- Deposit chemical waste in appropriately labeled receptacles and follow all other waste disposal procedures per District policy.

- Do not discharge to the sewer concentrated acids or bases; highly toxic, malodorous, or lachrymatory substances; or any substances which might interfere with the biological activity of waste water treatment plants, create fire or explosion hazards, cause structural damage or obstruct flow.

(q) **Working alone**: Do not work alone in a laboratory.

2. Working with Allergens and Embryotoxins

(a) **Allergens** (examples: diazomethane, isocyanates, bichromates and methyl methacrylate): Wear suitable gloves to prevent hand contact with allergens or substances of unknown allergenic activity.

(b) **Embryotoxins** (examples: organomercurials, lead compounds, formamide): If you are a woman of childbearing age, handle these substances only in a fume hood whose satisfactory performance has been confirmed, using appropriate protective apparel (especially gloves) to prevent skin contact.

- Review each use of these materials with the Chemical hygiene officer and review continuing uses annually or whenever a procedural change is made.

- Store these substances, properly labeled, in an adequately ventilated area in an unbreakable secondary container.

- Notify supervisors of all incidents of exposure or spills. Consult a qualified physician when appropriate.

3. <u>Working with Chemicals of Moderate Chronic or High Acute Toxicity</u>

Examples: diisopropylflurophosphate, hydrofluoric acid, and hydrogen cyanide. Supplemental rules to be followed in addition to those mentioned above:

(a) **Aim**: To minimize exposure to these toxic substances by any route using all reasonable precautions.

(b) **Applicability:** These precautions are appropriate for substances with moderate chronic or high acute toxicity used in significant quantities.

(c) **Location:** Use and store these substances only in areas of restricted access with special warning signs.

- Always use a fume hood, previously evaluated to confirm adequate performance with a face velocity of at least 100 (80-120 is acceptable) linear feet per minute, or other containment device for procedures which may result in the generation of aerosols or vapors containing the substance. Trap released vapors to prevent their discharge with the hood exhaust.

(d) **Personal protection:** Always avoid skin contact by use of gloves and long sleeves (and other protective apparel as appropriate). Always wash hands and arms immediately after working with these materials.

(e) **Records:** Maintain an inventory of these materials on hand, amounts used, and the name of the responsible person of storage areas.

(f) **Prevention of spills and accidents**: Be prepared for accidents and spills.

- Store breakable containers of these substances in chemically resistant trays. Also work and mount apparatus above such trays or cover work and storage surfaces with removable, absorbent, plastic backed paper.

- If a major spill occurs outside the hood, evacuate the area. Ensure that cleanup personnel wear suitable protective apparel and equipment.

(g) **Waste:** Thoroughly decontaminate or dispose of contaminated clothing or shoes. Store contaminated waste in closed, suitably labeled, impervious containers (for liquids, in glass or plastic secondary containment bottles half-filled with vermiculite).

4. <u>Working with Chemicals of High Chronic Toxicity</u>

(Examples: dimethylmercury and nickel carbonyl, benzo-a-pyrene, N-nitrosodiethylamine, other human carcinogens or substances with high carcinogenic potency in animals.)

(a) **Access:** Conduct all transfers and work with these substances in a "controlled area" such as a restricted access hood, glove box, or portion of a lab designated for use of highly toxic substances for which all people with access are aware of the substances being used and all necessary precautions.

(b) **Approvals**: Prepare a plan for use and disposal of these materials and obtain the approval of the laboratory supervisor and chemical hygiene officer.

(c) **Non-contamination/Decontamination**: Protect vacuum pumps against contamination with scrubbers or HEPA filters and vent them into the hood. Decontaminate vacuum pumps or other contaminated equipment, including glassware, in the controlled area before removing them from the controlled area. Decontaminate the controlled area before normal work is resumed there.

(d) **Exiting**: On leaving a controlled area, remove any protective apparel (placing it in an appropriate, labeled container) and thoroughly wash hands, forearms, face, and neck.

(e) **Housekeeping:** Use a wet mop or a vacuum cleaner equipped with a HEPA filter instead of dry sweeping if the toxic substance was a dry powder.

(f) **Medical surveillance**: If using toxicologically significant quantities of such a substance on a regular basis (e.g., 3 times per week), consult chemical hygiene officer, the Environmental Health and Safety Office and a qualified physician concerning advisability of regular medical surveillance.

(g) **Records:** Keep accurate records of the amounts of these substances stored and used along with the dates and names of users.

(h) **Signs and labels**: Ensure that the controlled area is conspicuously marked with warning and restricted access signs and that all containers of these substances are appropriately labeled with identity and warning labels.

(i) **Spills:** Ensure that contingency plans, equipment, and materials to minimize exposures of people and property in case of accident, are available.

(j) **Storage:** Store containers of these chemicals only in a ventilated, limited access area in appropriately labeled, unbreakable, chemically resistant, secondary containers.

(k) **Glove boxes**: For a negative pressure glove box, ventilation rate must be at least 2 volume changes/hour and pressure at least 0.5 inches of water. For a positive pressure glove box, thoroughly check for leaks before each use. In either case, trap the exit gases or filter them through a HEPA filter and then release them into the hood.

(l) **Waste:** Use chemical decontamination whenever possible. Ensure that containers of contaminated waste (including washing from contaminated flasks) are transferred from the controlled area in a secondary container under the supervision of authorized personnel.

5. Chemical Purchasing, Distribution and Storage

(a) **Purchasing**: Each person ordering a substance that has a PEL, TLV, or is a carcinogen (see Hazardous Chemical List, Select Carcinogen List) shall contact the chemical hygiene officer (laboratory chemical hygiene officer) before the order is placed to obtain information regarding the safe use and storage of the hazardous material. The laboratory chemical hygiene officer may recommend a less hazardous material.

(b) **Stockroom/Storerooms**: Toxic substances should be segregated in a well-identified area with local exhaust ventilation. Flammable materials shall be stored in a flammable storage cabinet. Corrosive materials shall be stored in a dedicated corrosives cabinet. Acids and bases shall be separated by space separation. Seismic strips shall be installed on all shelves where chemical bottles are stored. Stored chemicals in stockrooms shall be examined at least annually for replacement, deterioration and container integrity. Stockroom/storerooms shall not be used as preparation or repackaging areas and shall be under the control of the Chemical Hygiene Officer.

(c) **Distribution**: When chemicals are hand carried, secondary containment shall be practiced (the chemical shall be placed in an outside container).

(d) **Laboratory storage:** Quantities of corrosive, flammable and toxic chemicals in the laboratories shall not exceed a one-day supply unless the materials are stored in flammable, corrosive and separated toxics cabinets

with adequate ventilation.

6. Environmental Monitoring

If a highly toxic substance (PEL or TLV less than 50 ppm) is stored or used regularly (e.g., 3 times/week) the chemical hygiene officer shall request the chemical hygiene officer to assess the need for environmental monitoring.

7. Housekeeping, Maintenance and Inspections:

(a) Floors shall be cleaned regularly.

(b) The District Office or assigned professional, shall conduct annual laboratory inspections. More frequent, regular inspections shall be conducted by the chemical hygiene officer. The form in appendix 4 shall be utilized to document inspections.

(c) The chemical hygiene officer shall assign to laboratory staff the responsibility to inspect eyewash fountains. The form in the laboratory chemical hygiene plan, (Appendix 1) shall be used to record the inspections.

(d) Equipment taken out of service shall be disconnected from the power source and a lock and tag placed through the hole in the plug, or the disconnect placed in the off position and padlock in place. Alternatively, the circuit breaker may be removed to prevent accidental restarting of the equipment.

(f) Passageways: Stairways and hallways shall not be used as storage areas. Access to exits, emergency equipment and utility controls shall never be blocked.

8. Medical Program

(a) Regular Medical Surveillance shall be established to the extent required by regulations.

(b) Those individuals whose work involves regular and frequent handling of toxicologically significant quantities of a chemical should consult with the institutional chemical hygiene officer to determine whether a schedule of regular medical surveillance is desirable.

(c) The Employee Health physician shall oversee needlestick injuries or other exposure to blood, blood products, or body fluids.

9. Protective Apparel and Equipment

The following items have been determined by the chemical hygiene officer to be necessary personal protective equipment when working with the chemicals commonly used in this laboratory:

(a) **Eye protection**: Safety glasses shall be worn when working with chemicals, biological agents, and pressure or vacuum systems. Splash goggles should be worn if there is a splash hazard in any operation involving hazardous chemicals. Impact protection goggles should be worn if there is a hazard of flying particles.

(b) **Appropriate gloves** suitable for the hazardous material in use shall be worn when working with hazardous chemical or biological materials.

(d) **Fume hoods** shall be used with any appreciably volatile substance with a TLV of less than 50 ppm.

(e) **Lab coats** shall be worn at all times in the laboratory.

10. Signs and Labels

(a) Each telephone shall have posted the emergency telephone number for the front office, district office and Safety office.

(b) Chemical waste containers shall be labeled using the yellow Hazardous Waste labels provided by the District Office.

(c) Chemicals that are mixed as reagents for later experiments shall be labeled with the chemical name, concentration, hazard warning and target organ information.

(d) Laboratories using hazardous chemicals shall have a sign at the entrance designating the area "Authorized Personnel Only" and "Chemical Storage Area".

(e) The original manufacturers label shall be retained without alteration on the container or replaced with an appropriate label if the contents are changed.

(f) Good laboratory practice ensures the dating of all chemical containers on arrival and upon opening. Therefore, all containers shall be dated.

11. Spills and Accidents

(a) All employees in this laboratory shall follow the District's reporting format.

(b) All injuries or illnesses shall be reported to Environmental Health and Safety for analysis and recommendations for future prevention of the incident.

12. Information and Training Program

(a) All laboratory faculty and staff are required to have annual documented

training covering OSHA and EPA topics. The District Office conducts laboratory safety training for all employees.

(b) An outline of the laboratory specific training written shall be utilized for instruction. Literature references, laboratory SOPs or notebooks may be referenced as methods. Ensure the procedure contains safety information and is available in the lab for use by the staff.

(c) A certified statement from the employee stating that the laboratory chemical hygiene plan, the training outline, and standard operating procedures for working with chemical carcinogens/toxins have been explained satisfactorily will be included in the laboratorychemical hygiene plan Appendix 2.

(d) The chemical hygiene officer shall regularly and continuously review the techniques of laboratory staff. The chemical hygiene officer shall also assist them in developing better techniques, with an emphasis on safety.

13. **Waste Disposal Program**

(a) Hazardous waste chemicals shall be disposed of through the District Office.

(b) Sharps and broken glass shall be placed in an approved sharps container and disposed of through the District Office.

(c) Non-hazardous trash shall be removed by custodial staff and delivered to the appropriate location for disposal.

(d) White paper, letterhead, photocopy paper, computer paper, etc. shall be placed in recycling containers.

14. **List of Hazardous Chemicals, Appendix 3**, currently used in _____.

15. **List of Prop 65 Chemicals, Appendix 3**, currently used in _____.

16. **Fire Evacuation Route**: Proceed out of building and meet at designated Meeting point per school emergency evacuation plan.

17. **Nearest Hospital**:

18. **Emergency Services**:

Santa Barbara Sheriff's Department
9-1-1 or (805) 681-4100

County Fire Department 9-1-1

Appendix 1

Eye Wash and Shower Monthly Inspection Record

Name	**Date**	**Pass/Fail**	Classroom

Appendix 2

Employee Training Record

This certifies that Chemical Hygiene Plan and Annual Laboratory Safety training has been completed

Indicate the date you received the training

Printed Name	Signature	CHP Training	Annual Lab Safety Training

Appendix 3

Hazardous Chemical List

PROPOSITION 65 LIST

Appendix 4

Environmental Health & Safety Annual Laboratory Inspection

Building & Room Number:_____ **Date/Re-Inspection Date:**_____

Department:_____ **Surveyor:** _____

PI: _____ **Contact:** _____ **Phone #:** _____

Note: This form is intended to be used as a sample in order to anticipate areas covered in the periodic safety inspections conducted by authorized personnel.

Signs & Labels					
Are the following labeled correctly?	YES	NO	N/A	Re-Insp YES	Re-Insp NO
Entrance?					
Refrigerator/Freezer/Microwave?					
Electrical hazards?					
Chemical Storage Areas?					
Carcinogen Areas?					
Chemicals not in primary container?					
Chemical Hygiene Plan (CHP) / Training/Awareness					
Are the following areas updated in the SOP?	YES	NO	N/A	Re-Insp YES	Re-Insp NO
CHP					
Appendix 1 – Eye Wash					
Appendix 4 – Lab Specific Training Outline					
Appendix 5 – Lab Specific Training Record					
Appendix 3 – Hazardous Chemical and Select Carcinogen Inventory?					
Have all lab personnel attended EH&S Annual Regulatory Review Session?					
Engineering Controls					
	YES	NO	N/A	Re-Insp YES	Re-Insp NO
Is the safety shower accessible?					
Is the eyewash unobstructed?					
Can the electrical panel doors open fully (90°)?					
Is there adequate seismic protection on chemical storage shelves?					
Are doors leading to the corridors closed or on automatic closures?					
Are fire extinguishers accessible, wall-mounted, annually certified & inspected monthly?					
Are gas cylinders secured properly?					
Are vacuum system flasks labeled and protected (taped, plastic, etc.)?					
Are the vacuum flasks for the biosafety cabinet properly contained when stored on the floor?					
Is the fume hood annually inspected (EH&S)?					
Is the amount of material in the fume hood minimal?					

Are the airflow slots in the back of the fume hood clear?					
Are containers in the fume hood capped?					
Is the biosafety cabinet annually certified?					
Personal Protective Equipment					
Are the following worn when working with hazardous chemicals?	YES	NO	N/A	Re-Insp YES	Re-Insp NO
Lab Coat?					
Gloves?					
Approved eye protection?					
Adequate shoes (no sandals)?					
Are approved respirators/dust masks worn in the laboratory?					
Hazardous Materials Storage					
Are the following chemicals stored properly?	YES	NO	N/A	Re-Insp YES	Re-Insp NO
Flammables?					
Acids?					
Bases?					
Oxidizers?					
Toxics?					
Are peroxide-forming chemicals dated when opened (ethers)?					
Is secondary containment used when necessary?					
Are hazardous chemicals stored below eye level?					
Preparedness/Prevention					
	YES	NO	N/A	Re-Insp YES	Re-Insp NO
Are glass chemical bottles stored properly and not on the floor?					
Are chemical spills cleaned up properly?					
Is general housekeeping used?					
Are all flames attended?					
Are food/beverages kept in clean areas and "food only" refrigerators/freezers?					
Is the chemical spill kit location known?					
Waste Management					
	YES	NO	N/A	Re-Insp YES	Re-Insp NO
Are all hazardous waste chemicals labeled properly (yellow labels)?					
Are needles and razor blades disposed of in an approved sharps container?					
Are broken glass, pipettes and pipette tips disposed of in a lined box?					
Emergency Procedures					
	YES	NO	N/A	Re-Insp YES	Re-Insp NO
Is there an emergency telephone list posted by the telephone?					
Do lab personnel know where to evacuate in case of fire?					
Do lab personnel know how to use a fire extinguisher?					
Do lab personnel know the proper procedures if an injury/incident (chemical/biological spill) occurs?					
Do lab personnel know how to contact security?					

Comments:

Environmental Health & Safety Laboratory Inspection Comment Sheet

Signs & Labels

Entrance—Entrance to laboratories must display the warning sign: "CAUTION Toxic/Hazardous Chemicals Are Used In This Workplace" This sign is provided by EH & S.

Refrigerator/Freezer/Microwave—If a refrigerator/freezer or microwave is for laboratory use it must be labeled with the sticker "NOTICE No Food Or Drink Allowed", and if the refrigerator/freezer is not designed by the manufacturer to allow for flammable materials the sticker "Not Suitable For Flammable Materials" should also be added. For those refrigerator/freezers and microwaves that are used for food/ beverages the label "Not Suitable for Hazardous Biological or Hazardous Chemical Materials.

Electrical Hazards-- Electrically powered equipment found in the laboratory includes fluid and vacuum pumps, lasers, power supplies, electrophoresis and electrochemical apparatus, x-ray equipment, stirrers, hot plates, heating mantles, microwave ovens and ultrasonicators. Make sure this equipment is labeled properly (high voltage label), cords are not damaged and location of electrical panel is known by all laboratory personnel in order to shut off power in case of emergency.

Chemical Storage Areas—All chemical storage cabinets shall be labeled with the chemical hazard (Flammable, Corrosive, Oxidizers, etc.).

Chemicals not in primary container—All hazardous chemicals that are taken out of their original container and placed in a secondary container must be labeled with the following:

1. Full chemical name (Ethanol, not EtOH).
2. Concentration
3. Hazard Class (Flammable, Corrosive, Carcinogen)
   The hazard class may be written on the bottle, a color code system may be used, or the NFPA diamond stickers may be used.
4. Target Organ Information
   Instead of placing target organs on every bottle, labs may post "See original label or MSDS for and target organ information."

Chemical Hygiene Plan (CHP)/ Training

Chemical Hygiene Plan (CHP)-- According to OSHA all laboratories must have a CHP. The following Appendices must be completed:

1. Appendix 1—Eye Wash Fountain Monthly Inspection Record
   Lab personnel must check the eye wash monthly. The eyewash must be turned on and run for approximately 30 seconds. The inspection record must then be signed.
2. Appendix 2—Employee Training Record
   Annually, lab personnel are required to read the CHP, attend Annual Laboratory Safety training, and receive Toxins training for all toxins used in the laboratory.

3. Appendix 3 – Hazardous Chemical & Select Carcinogen List
   Every lab must have an inventory of all hazardous chemicals and carcinogens used/stored in the laboratory.

*EH&S Annual Regulatory Review Session—F*aculty and staff are required to have annual documented training covering various OSHA and EPA topics. One way to meet this training requirement is to have employees attend Environmental Health & Safety's annual review session. Other options include having EH&S provide on-site training for groups of 50 or more, or having departmental safety officers receive "train-the- trainer" training from EH&S before providing training to their department themselves.

Engineering Controls

Safety Shower—The safety shower area must be completely accessible.

Eyewash— The area surrounding the eyewash must stay unobstructed at all times. The area should be clear enough that the faucet may be turned on completely and the actual hose may be pulled out to full length.

Electrical Panels—All electrical panel doors must be able to open to at least a 90° angle.

Seismic Protection—Open chemical shelves should have seismic strips attached. Storing chemicals in cabinets with closed doors is an alternative to seismic strips.

*Door Closures—A*ll doors that lead to a corridor must stay closed at all times even during work hours. The alternative to keeping the doors closed is to have automatic closures that are tied into the fire alarm placed on the open door.

Fire Extinguishers—All extinguishers must be easily accessible and mounted on the wall. It is required that the fire extinguisher be certified annually by an outside company. Also, the extinguisher needs to be inspected monthly. Lab personnel need to make sure the extinguisher is not damaged and the pressure gauge is at normal pressure. There is a card attached to the extinguisher for initialing.

Gas Cylinders—Cylinders of compressed gases should be securely strapped or chained to a wall or bench top. They should also be capped when not in use and a cart must be used to move the cylinder.

Vacuum System Flasks—The flasks for the vacuum systems need to be plastic or plastic coated glass. If these are not feasible options plastic or wire mesh may be used OR the flask may be taped.

Fume Hood—The chemical fume hoods must be inspected annually. EH&S will conduct these inspections. The amount of materials in the fume hood should be kept at a minimum in order to ensure proper airflow. The airflow slots in the back of the fume hood should also remain unobstructed. Any chemical that is stored in the fume hood must be capped during non-use. This includes waste. Funnels are not to be left in the waste bottles. It is illegal to intentionally allow the waste to evaporate in the hood.

Eye Protection - Appropriate eye protection is required while working in the laboratory or clinic. At a minimum, eye protection shall consist of plastic safety glasses with full size side shields or prescription safety glasses.

Suitable splash goggles shall be worn for operations or areas in which significant splash hazards exist. These include working with:

- Large quantities of hazardous liquids.
- Liquids under pressure or vacuum.

- Highly corrosive or reactive chemicals.

For assistance in selecting the proper eye/face protection, contact Environmental Health and Safety.

Selection and Use of Gloves – Always use the proper hand protection by selecting the correct glove. It is important to reference a glove selection guide to ensure maximum protection.

Note: If chemical to be used is not in the reference guide, contact Environmental Health and Safety for further assistance.

Clothing Protection - Lab coats are required to be worn while working in a laboratory or clinic. Also, it is not recommended to wear skirts or shorts while working in a laboratory.

Foot Protection - Sandals or open - toed shoes shall not be worn in the laboratories.

Hazardous Materials Storage

Flammables—All flammable liquids should be stored in an approved flammable storage cabinet. Acetic Acid is combustible so it is recommended that it is stored in the flammable cabinet in an approved non-combustible secondary container.

Acids—Acids should be stored in a designated corrosive cabinet. See oxidizers below.

Bases—Bases shall be stored in a designated corrosive cabinet. The bases may be stored in the same cabinet as the acids as long as approved secondary containment is used.

Oxidizers—Oxidizing agents should be segregated from organic acids, flammable, and combustible materials. . Nitric acid, sulfuric acid and perchloric acid are oxidizing acids. Nitric acid should be stored in its own containment, while the sulfuric acid and perchloric acid may be stored together in secondary containment.

Peroxide-forming chemicals—Peroxide-forming chemicals should be dated when opened and disposed of after one year.

Secondary Containment—Proper secondary containment must be used when incompatible chemicals are stored in the same area.

Hazardous Chemicals—All hazardous chemicals liquid or powder form need to be stored below eye level

Housekeeping

Chemicals on Floor—At no time are glass chemical containers to be stored on the floor.

Spills Event—All spills should be cleaned immediately to prevent slipping hazards and further damage to the area affected.

Housekeeping—General good housekeeping practices should be used in the laboratories.

Unattended Flames—Open flames must be attended at all times.

Food/Beverage—Food/Beverage may only be stored in designated clean areas & “food only” refrigerators/freezers.

Chemical Spill Kit—All lab personnel should know the location of a chemical spill kit.

Waste Management

Labels—All hazardous waste must have the proper labeling. The label must be completely filled out. Waste needs to be dated & not kept for greater than one year.

Sharps—All needles and razor blades must be disposed of in an approved sharps container.

Broken Glass, Pipettes & Pipette Tips—All broken glass, pipette tips and plastic pipettes that are not contaminated with radioactive, infectious or hazardous chemical materials need to be disposed of in the broken glass box or a sturdy cardboard box lined with a plastic bag.

Emergency Procedures

Emergency Telephone List—An emergency telephone list should be posted on or near the telephone. Phone numbers that need to be included on this are Security, EH&S, District office, Employee Health & Workers' Comp.

Fire Evacuation Route—All employees must know where to evacuate in case of fire. In most cases employees will evacuate laterally, not to the outside. If route is not known, contact EH&S.

Use of Fire Extinguishers—All employees should know how to use a fire extinguisher.

Injury/Spill Procedures—All employees should know proper procedures for an injury or a chemical/biological spill

Contacting Security—All employees should be informed on how to contact security or the main office