CALIFORNIA STATE UNIVERSITY, BAKERSFIELD

CHEMICAL HYGIENE PLAN

CALIFORNIA STATE UNIVERSITY
BAKERSFIELD
Safety and Risk Management

Office of Safety & Risk Management
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UNIVERSITY SAFETY POLICY STATEMENT

It is the policy of the California State University, Bakersfield to maintain, insofar as it is reasonably within its control to do so, campus laboratory environments for faculty, staff, students, and the public that will not adversely affect their health and safety nor subject them to avoidable risks of accidental injury or illness. No employee or student shall be required to perform any task which is determined to be unsafe or unreasonably hazardous.

To accomplish this, departments shall provide facilities and equipment that meet all federal, state, and local safety laws and regulations, and shall promote appropriate policies, standards, and procedures for governing laboratory health and safety programs.

In addition to the overall responsibility for campus health and safety which rests with the President, the responsibility for taking corrective action rests with the school deans and the department directors. The immediate responsibility for laboratory workplace health and safety belongs to each campus employee who performs a supervisory role. In addition, individual employees are responsible for preventing laboratory accidents. All faculty and staff are expected to take whatever actions are necessary to ensure that safe, healthful conditions and practices are provided and followed within the areas under their jurisdiction. All members of the campus community shall cooperate fully with all aspects of the various campus health and safety programs so that we may become a model for others to follow.

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Introduction and Overview 1.0

The purpose of the Chemical Hygiene Plan (CHP) is to outline laboratory work practices and procedures which are necessary to ensure that members of the university community are protected from the health hazards associated with chemicals with which they work.
This Chemical Hygiene Plan is a resource for, and a supplement to, the university Injury and Illness Prevention Plan (IIPP). The IIPP is the comprehensive safety policy for the entire university (all locations, including laboratories). Authority for enforcement of adherence to standards set forth in this Chemical Hygiene Plan rests with the president of the university, as described in the IIPP. This plan has been developed by Environmental Health and Safety (EHS) in the Office of Safety, Risk & Sustainability at California State University, Bakersfield for laboratories on campus. This Chemical Hygiene Plan is required under of the California Code of Regulations (CCR) and the Code of Federal Regulations (CFR).

General laboratory guidelines 2.0

The following guidelines shall be used for all laboratory work with chemicals. If there is an accident where a chemical meets a part of the body, consider the following:

- Eye contact: promptly flush eyes with water for a prolonged period. Proper eye protection should always be worn in the laboratory.
- Skin contact: promptly flush the affected area with water and remove any contaminated clothing. If symptoms persist after washing, seek medical attention.
- Ingestion: check SDS for response. Seek medical assistance depending on amount swallowed.
- Injection: check SDS. Seek medical assistance depending on severity.
- Inhalation: check SDS. Seek medical assistance depending on severity.

-Promptly clean-up spills using appropriate protective apparel and equipment. Follow proper disposal procedures as found in Section 9.0.
-Develop safe habits to avoid unnecessary exposure to chemicals by any route.
-Do not smell or taste chemicals. Use chemicals with a low vapor pressure in fume hoods to reduce the amount of exposure.
-Eating or drinking in the laboratory is not permitted.
-Handle and store laboratory glassware with care to avoid damage, do not use damaged glassware. Properly dispose of broken glassware.
-Do not use mouth suction for pipetting.
-Wear proper shoes. Sandals and open toed shoes are not allowed in the laboratory or chemical stockrooms.
-Wear appropriate clothing that fully covers the body, arms, and legs. Cotton clothing is recommended.
-Confine long hair and loose clothing.
-Inspect gloves before each use.

-Keep the work area clean and uncluttered. Clean-up the work areas on completion of an operation or at the end of each workday.
-Assure the appropriate eye protection is worn by all persons, including visitors, where chemicals are being stored or handled.
-Only well, understood reactions shall be permitted to run unattended. If a reaction is permitted to be left unattended, lights should be left on, and a sign should be placed on the door with the following information: the experimenter's name and phone number, supervisor's name and phone number, chemical reagents, products, and quantities used in the experiment.

Responsibilities 3.0

Office of Safety, Risk, & Sustainability (SRS), laboratory supervisors, laboratory workers, and the Hygiene Committee should adhere to the responsibilities outlined below.

3.1 Responsibilities of the office of SRS

SRS provides training and technical guidance in the development and implementation of the provisions of the Chemical Hygiene Plan. Office of Safety Risk and Sustainability responsibilities include:

• Develop and update, as necessary, the Chemical Hygiene Plan policies and practices.
• Provide hazard communication training on an annual basis. This training will inform employees on the procedures to follow in the event an accident occurs.
• Dispose of chemical wastes generated from laboratories in accordance with approved disposal methods.
• Provide updates to departments on federal, state, and local legislation and regulations concerning chemicals and worker safety issues.
• Periodically perform chemical hygiene and lab safety inspections and maintain inspection records. Notify departments/lab supervisor(s) of the results of these inspections.
• Assist departments and laboratory supervisors in making Safety Data Sheets (SDS) available to laboratory workers as needed.
• Ensure proper labeling guidelines are followed.
• Conduct or arrange for exposure assessments when necessary.
• Coordinate efforts to clean large spills.

3.2 Responsibilities of the laboratory supervisor

The laboratory supervisor has responsibility in the laboratory to institute the Chemical Hygiene Plan and ensure compliance with requirements within their respective laboratories. Responsibilities of each laboratory supervisor includes:

• Know the current requirements of the Chemical Hygiene Plan.
• Ensure everyone in the laboratory is wearing appropriate shoes and clothing.
• Prepare for accidents that may result in the unexpected exposure of personnel or the environment. This includes stocking laboratories with spill clean-up material.
• Determine that the level of personal protective equipment being used is appropriate, and it

is in proper working order.
• Ensure that action is taken to correct work practices and conditions that may result in employee overexposure or the release of toxic chemicals.
• Ensure that proper disposal of unwanted hazardous chemicals and/or hazardous waste is done with the assistance of SRS.
• Follow proper signage and labeling guidelines set forth in the regulations. Safety Data Sheets (SDS) are to be available, up-to-date, and located in an area readily accessible for review.
• Ensure all laboratory workers receive training regarding general safety in the laboratory and attend hazard communication training on an annual basis.

Report to Safety, Risk, & Sustainability all incidents when either of the following applies:

• Situations where laboratory workers are exposed to hazardous materials and symptoms of exposure are evident and/or medical treatment (including first aid) is necessary, meaning skin contact/penetration, eye contact with, ingestion of, or inhalation of a hazardous chemical.
• Situations including a danger of environmental contamination; this means the spill or release of a hazardous chemical when the nature of the material or the circumstances of the spill are such that personnel in the immediate area cannot clean-up the spill safely.

3.3 ***Responsibilities of laboratory workers***

This includes those employees who are laboratory assistants, teaching assistants, and student employees.
• Comply with the procedures outlined in the Chemical Hygiene Plan.
• Understand and comply with all standard operating procedures which apply to the laboratory.
• Wear appropriate clothing and shoes in the laboratories and chemical stockrooms.
• Develop good personal chemical hygiene habits.
• Understand the function and proper use of all personal protective equipment. Use personal protective equipment (PPE) when mandated or necessary.
• Report to the laboratory supervisor any significant problems arising during standard operating procedures.
• Report to the laboratory supervisor all known facts pertaining to accidents which may occur in the laboratory or if conditions/actions exist that could result in an accident.
• Understand and know the location of the SDS for the laboratory.
• Attend all laboratory safety training as required.

3.4 ***Responsibility of the Chemical Hygiene Officer***

The responsibilities of the Chemical Hygiene Officer (in conjunction with the SRS office) are as follows:
• Work with administrators and other employees to develop and implement appropriate chemical hygiene policies and practices.
• Provide technical guidance to departments.
• Coordinate assessment of employee exposure to hazardous chemicals.

• Maintain currency on legal requirements concerning regulated substances.
• Seek ways to improve the chemical hygiene program.
• Ensure that appropriate audits are conducted. Review and evaluate the effectiveness of the CHP annually and update if necessary.
• Review all purchases, requisitions, grants, and contracts involving the use of hazardous chemicals.

4.0 Control measures to reduce exposure

It is the responsibility of the laboratory workers and the laboratory supervisor to conduct formal inspections which focus on housekeeping and chemical hygiene practices in the laboratory on a continuous basis. Safety, Risk, & Sustainability will conduct inspections of laboratories on campus periodically. Some of the areas that these inspections will focus on include general safety guidelines, housekeeping, storage of chemicals and training requirements.

4.1 Housekeeping

• Access to emergency equipment, eyewashes, safety showers, fire extinguishers, circuit breakers, fire alarm pull boxes, emergency spill equipment, and exits must never be blocked.
• Lab areas and aisles are to be kept clean and uncluttered.
• All hallways, exits, and stairs shall be clear of chemicals and clutter.
• Contaminated glassware is to be cleaned regularly.
• All chemicals should be placed in their assigned storage areas at the end of each workday.
• Promptly clean-up all small spills. Properly dispose of the spilled chemicals and clean-up all surfaces and equipment. Report all large spills to the laboratory supervisor.
• All working surfaces and floors should be cleaned regularly. Bench tops should be cleaned at the end of a operation or experiment or at the end of each workday.
• All compressed gas cylinders shall be secured.

4.2 Inspections

Personal Protective Equipment (PPE) shall be evaluated before each use, including inspections of:
• Safety glasses / splash goggles
• Gloves (including integrity and type)
• Shoes
• Clothing
• Hearing protection
• Respirators
• First aid kits

Safety, Risk, & Sustainability (SRS) conducts inspections as specified on selected emergency equipment, including:
• Eye washes

• Safety showers

Eye wash stations should be checked by the laboratory supervisor to ensure that inspections are done monthly. Other safety equipment shall be inspected regularly every 3-6 months. Out-of- service equipment shall be reported immediately to SRS for corrective action.

5.0 Medical program

Medical surveillance, including medical consultation and follow-up, shall be provided to employees under the following circumstances:
• Where exposures have been shown to be over the action level for a regulated substance, which has medical surveillance requirements.
• Whenever a laboratory employee develops signs or symptoms that may be associated with a hazardous chemical to which the employee may have been exposed to in the laboratory.
• Whenever a spill, leak, or explosion result in the likelihood of a hazardous exposure, as determined by the laboratory supervisor.
• All students working in the laboratory who are pregnant must receive doctor's approval to work in the laboratory (as stated in Section 5.2).
• All employees are required to wear a respirator.

All examinations shall be provided by a licensed occupational medical physician or under the direct supervision of a physician licensed in occupational medicine at no cost to the employee, without loss of pay and at a reasonable time and place where medical consultations or examinations are provided. The examining physician shall be provided with the following information:
• The identity of the hazardous chemical(s)/material(s) to which the employee may have been exposed to and the SDS if available.
• A description of the conditions under which the exposure occurred.
• A description of the signs and symptoms of exposure that the employee is experiencing, if any.

5.1 Medical Emergency Procedure

If someone in your area is injured or becomes ill and treatment or intervention by a medical professional (doctor, nurse, etc.) is required, call 911, and inform the dispatcher of a medical emergency. The dispatcher will ask for more information; stay on the telephone until asked to hang-up. If the injury is the result of contact with chemical(s), very hot/cold liquid, or burning (flaming) material, immediately flush the affected area with faucet water, eye wash, or shower only as necessary, depending on location and area of injury; keep flushing for 15-minutes.
In the event of a major burn, burn medication, ointment, spray, etc., is not recommended. If further medical action is necessary for severe burns the physician will need to scrape the burn medication or ointment off to properly treat the burn. A minor heat burn can be treated by running cold water over the burned area. The use of ice is not recommended as this can

cause frostbite or even shock depending on the burn's severity. The time recommended for cold applications (cold water straight from the faucet/tap) varies from 10-30 minutes or until the pain does not recur after the cold water is stopped

5.2 Pregnant students in the laboratory

A physician's consent to fully participate in a classroom laboratory setting is required of all pregnant students. The university cannot eliminate all risk factors faced by pregnant students in the classroom laboratory setting. Pregnant students who continue in the program with a physician's consent must be cautious to avoid unnecessary risks. It should be noted that because of ethical considerations, virtually no comparable clinical tests have been conducted on humans, but empirical studies have indicated a causative effect between exposure to some chemicals and reproductive abnormalities. There are approximately four million chemical compounds currently in use worldwide, but none of them have been tested for their effects on general or reproductive health. Pregnant students who continue to participate in the classroom laboratory are not covered by the university for any exposure they may encounter that has the potential or the capability to cause harm to the woman or child.

5.3 Pregnant employees

Employees who are pregnant, or are trying to become pregnant, should be cautious to avoid unnecessary risks. It should be noted that because of ethical considerations, virtually no comparable clinical tests have been conducted on humans, but empirical studies have indicated a causative effect between exposure to some chemicals and reproductive abnormalities. There are approximately four million chemical compounds currently in use worldwide, but none of them have been tested for their effects on general or reproductive health. Employees should consider reviewing the potential for exposure to chemicals with a physician. Be prepared to share a list of the chemicals one may be exposed to with the physician. In addition, employees should work closely with their supervisor and Human Resources during this time.

6.0 Information and Training Program

6.1 Responsibility to provide information and training

The laboratory supervisor shall be responsible for providing laboratory workers information and training concerning the hazardous materials and processes in the laboratory.

6.2 Employee training

Employee training shall include:

• Employees shall be trained on the information contained in the Chemical Hygiene Plan.
• The methods and observations that are used to detect the presence or release of a hazardous chemical.
• The physical and health hazards of chemicals in the work area.
• The measures employees can take to protect themselves from hazards. This includes emergency procedures, proper personal protective equipment (PPE), and specific procedures to protect laboratory workers from exposure.

• A description of the signs and symptoms associated with exposure to hazardous materials.
• Hazard communication training that covers a description of sources of information on the hazardous properties of materials present in the laboratory. These sources of information may include SDS, manufacturers' labels on containers and catalogs, the Chemical Hygiene Plan, or other reference works available in the laboratory.
• A description of the step(s) to be taken in the event of an accident, including injury, exposure, leak(s), and spill(s).

6.3 Documentation of training

A written record of all information and training shall be kept. This record shall include:
• A written summary of the information given.
• The name of each laboratory worker who receives this information and training.
• The date on which the training was completed.

A copy of this training shall be sent to the Office of Safety, Risk & Sustainability by email at srm@csub.edu. A copy of these training records shall also be kept for a period of five years

7.0 Protective apparel and equipment

7.1 Eye and face protection

• Safety glasses with side shields or safety goggles are required for everyone, even visitors, entering the laboratory.
• Before each use, eye and face protection is to be inspected for damage. If deficiencies are noted, the equipment should be cleaned, repaired, or replaced before use.

7.2 Gloves

• Chemical resistant gloves shall be worn whenever the potential for hazardous skin contact exists. The Safety Data Sheet (SDS) for the substance or glove selection charts should be referenced when selecting a suitable glove.
• Heat resistant gloves shall be used for handling hot objects; gloves containing asbestos should not be used.
• Inspect gloves before each use. Check for tears, punctures, and discolorations. Replace as needed.

7.3 Shoes

• Federal and state regulations declare that no sandals or open toed shoes are to be worn in laboratories.
• Shoes should be inspected for damage, deterioration, and contamination.

7.4 Clothing

• Appropriate clothing should always be worn in the lab or stockroom.
• Laboratory coats or aprons shall be worn by laboratory employees whenever in the work area or when handling liquids which are easily absorbed through the skin.

• If laboratory coats are used, they must be cleaned regularly. If a spill occurs in the laboratory and gets on the lab coat or personal clothing, the clothing shall be removed immediately. If use of a safety shower is necessary, remove all contaminated clothing prior to showering.
• Inspect clothing for damage, deterioration, or contamination before and after each use.

7.5 Respirators
All employees who are issued respirators for any reason must follow all the requirements set forth in the Respiratory Protection Program (RPP). Please contact SRS for more information.

7.6 Emergency equipment
Each laboratory employee shall be familiar with the location, application, and correct ways to operate the following equipment:

Eye wash units
Eye wash units should be within the work area for immediate emergency use. Water should be potable and provide at least 15-minutes of flushing. Eye washes should be inspected monthly by a qualified person to check for any defaults in the system and properly documented. Eye wash covers should always be kept on.

Safety showers
Safety showers should be within 10-seconds of travel for immediate emergency use. Safety showers shall provide quality water, provide 15-minutes of flushing, and be inspected monthly by a qualified person by flushing the line to verify proper operation and documented.

Fire extinguishers
University policy does not require employees to use a fire extinguisher, but employees may extinguish a fire in the incipient stage if they have received training and feel comfortable using a fire extinguisher. Fire extinguishers should be provided within 75-feet of travel and located along normal paths of travel. Access must be maintained, and the location should be marked in an appropriate manner. The fire extinguisher type and size must be selected for the appropriate hazards.

First aid kits
First aid kits should be available and maintained for treatment of minor injuries or short-term emergency treatment before receiving medical assistance. Inspections should be conducted monthly to ensure it is properly stocked. The Student Health Center will refill first aid kits.

7.7 Fire response guide
If there is a fire, immediately notify those nearby by yelling **"FIRE!"**
• Pull the nearest fire alarm.
• Immediately evacuate all occupants in the room.
• Close all doors.
• If there is no fire alarm pull box in the area, call 911 from a campus telephone or a cell phone

at a nearby, safe location to report the fire. The dispatcher will ask for more information; stay on the telephone until you are asked to hang up. (Note: The assumption is made that the location you are calling from is still safe.)

In the event of a fire, the university does not require employees to use a fire extinguisher. However, if the employee has received proper fire extinguisher training and they feel comfortable in extinguishing an incipient stage fire, they may do so. Employees who wish to extinguish a fire should remember the **PASS** method.

Pull the pin: This will allow you to squeeze the handle in order to discharge the extinguisher.
Aim at the base of the fire: Aiming at the middle will not be effective as the agent will pass through the flames.
Squeeze the handle: This will release the pressurized extinguishing agent.
Sweep from side to side: Cover the entire area that is on fire; continue until the fire is extinguished and keep an eye on the area for re-lighting. If a fire extinguisher is discharged or a university employee extinguishes the fire, call the University Police and SRS afterwards to report extinguisher use.

7.8 Fume hoods

An inventory of laboratory fume hoods and their locations on campus is maintained by SRS. This inventory will be comprised of all campus laboratory type fume hoods which are described/defined in federal and state regulations. Each campus laboratory type fume hood shall be tested annually by SRS (unless other testing arrangements have been made) to verify and document adequate air flow. Records of this annual testing are kept by department. A properly operating hood has an average airflow of 100 linear feet per minute (LFM) into the hood through the front opening with a minimum of 70 LFM at any point on the face of the opening. Most hoods have a feature whereby the area of the hood face opening can be varied, by adjusting a vertically moving sash. The airflow of 70 to 100 LFM should be achieved by adjusting the height of the face opening.

7.9 Biosafety cabinets

An inventory of biosafety cabinets and their locations is also maintained by department. Biosafety cabinets are similar to laboratory fume hoods in appearance and function but protects workers from exposure to bacteria or viruses.

8.0 Signs and labels

Chemical and hazardous waste must be kept in closed, appropriately labeled containers in good condition. Safety, Risk, & Sustainability (SRS) has a specific label to use for hazardous waste. These labels must contain 5 pieces of information:

1. A description of the waste.

- The chemical and/or common name of the waste material.
- A statement of the proportions of constituents if a mixture (percent composition, parts

per million, molarity, etc.)

- An estimate of the proportions based on knowledge of the process that produced the waste.

2. A statement of what the hazard is; check the appropriate boxes to indicate the hazardous properties of the waste (flammable, reactive, toxic, or corrosive). If pH is known, list it on the label.

3. Whether the waste in the container is solid or liquid.

4. The start date for that container of waste. That is the date when the first amount of waste is added to the empty container. It is legal to specify the date when the empty waste container is put in place, even though the first drop of waste might not go in until several days later, although this reduces the time the container can remain on campus.

5. The name of the department that generated the waste. This function identifies which department/program generated the waste in the container(s). It is common for questions to arise about the nature of a specific hazardous waste and SRS needs to know who to contact.

Regulations also require that hazardous waste containers themselves must:

- Be of sound construction and in good condition (i.e. not leaking).
- Be constructed of material compatible with the waste being stored.
- Be kept closed at all times except when material is being added/removed, meaning with an appropriate screw cap or bung screwed on tight enough not to leak if the container is inverted. A waste drum or bottle that is left open is a citable EPA violation.

9.0 Spills and accidents

Every location where chemicals are stored should have a supply of equipment and materials for use available in the event of a chemical spill. The quantity of spill response material should be enough to handle twice the size of the largest container in storage. Spill response materials at a minimum should include:

• Absorbent (granular or “pillows”).
• Personal Protective Equipment (at minimum, rubber gloves and protective eye wear).
• Scoops and/or pans for picking up granular solids.
• Plastic bags to contain contaminated absorbent (i.e. heavy bags, such as trash compactor).
• A permanent marker to use for labeling contaminated clean-up material bag(s).

9.1 Minor chemical spill

The range and quantity of chemicals in the laboratory require pre-emergency planning to respond safely to chemical spills. A minor chemical spill is a spill or release of hazardous

material that laboratory personnel are capable of handling safely without the assistance of safety or emergency personnel. This becomes a major chemical spill whenever circumstances change that laboratory personnel can no longer safely handle the situation (i.e. flammable material spill ignites). The clean-up of a chemical spill should be done only by workers who are familiar with the material and its hazards. The following precautions shall be followed in in the event of a minor chemical spill:

- Alert people in the immediate area of the spill.
- If the spilled material is flammable, turn off all sources of ignition which may cause it to ignite.
- Check the SDS for recommendations on spill clean-up.
- Wear protective equipment appropriate for the spilled material and/or location of the spill, including (but is not limited to) eye/face protection, gloves, lab coat/apron, and boots or other impermeable shoe covers. Use as much protective equipment as is necessary to prevent the spilled material or contaminated clean-up material from contacting skin or regular clothing.
- Avoid breathing any vapors, fumes, or dust from the spilled material.
- Confine the spill to as small an area as possible.
- If the spill is a liquid:
  -Use appropriate absorbent material (sponges, spill pillows/pads, socks, disposable rags, towels, granular absorbent, etc.) to absorb the spill.
  -Begin at the outer edges of the spill area, surround the spilled material, and work toward the center.
  -Allow the liquid to be completely absorbed into the absorbent.
  -Absorb (and neutralize if appropriate and safe to do) the spilled chemical with effective and compatible spill clean-up materials.
- Collected residue used absorbent, rinsed water, and any contaminated gloves, suits, etc. are to be discarded appropriately.
- Place all the spilled clean-up material in a container(s) for disposal as hazardous waste. At minimum, the container may be a heavy plastic bag to be used temporarily (4 mm thick or more).
- Do not place hazardous chemicals or spill clean-up material into the normal trash or flush down the drain.
- Notify the chemical stockroom of the spill and arrange for pick-up of the used absorbent and collected residues. If assistance is needed to help clean-up the spill, call the stockroom at ext. 2332.

List of Absorbent Materials and Uses

Absorbent Material	A Uses	Limitations
Common sand or soil.	Works for organic and aqueous liquids.	NOT recommended for: nitric, hydrochloric, sulfuric, or hydrofluoric acids. Heavy material affects disposal cost and handling in large amounts.
Diatomaceous earth, kitty litter.	Works for organic oil and aqueous liquids.	Not recommended for hydrogen peroxide, hydrofluoric acid.
Sawdust, sweeping compound.	Works for oil and organic liquids.	Not recommended for acids, oxidizing materials, aqueous liquids.
Paper towels, sponges.	Works for small spills of organic oil, or aqueous liquids. Wear rubber gloves when using these. May need to dispose of sponge as hazardous waste.	Not recommended for concentrated acids, oxidizing materials, spills containing sharps.
Spill-specific absorbent pillows, socks, granular material.	Follow manufacturer's instructions.	Designed for cleaning up spills of a specific chemical.

9.0 Major chemical spill

If there is a major chemical spill or release of hazardous material that cannot be safely handled by laboratory personnel, the following steps below are to be carried out by more than one person to be done as quickly and safely as possible.

- Attend to injured or contaminated persons and remove them from exposure safely without endangering oneself or others.

- If the spilled material is flammable, turn off ignition and heat sources safely without endangering oneself or others.

- Alert people in the laboratory to evacuate. Notify the supervisor/lab instructor immediately. Initiate evacuation of the building by pulling the fire alarm. Upon evacuating spill release area, close the door(s) to the affected area.

- From a safe (but nearby) location, call 911 from a campus telephone or cell phone and tell the dispatcher there is a chemical/medical emergency. The dispatcher will ask for more information; stay on the telephone until asked to hang-up. Have the following information ready for the emergency responder:

  -Name
  -Spill location
  -Chemical spilled
  -Estimated quantity of the spilled chemical
  -Phone number

- Have a person knowledgeable of the incident and the laboratory stand by to assist in providing information to emergency personnel when they arrive.

10.0 Procurement, distribution, and storage

10.1 Procurement and distribution

Before a chemical is received, information on the proper handling, storage, and disposal should be known to those who will be handling the chemicals. Safety Data Sheets (SDS) shall be maintained in an area where they are easily accessible. No container should be accepted without an adequate identifying label. Chemicals which are highly toxic or other chemicals whose containers have been opened should be stored appropriately. Stored chemicals should be examined periodically (at least annually) for replacements, deterioration, and container integrity. During this examination, a chemical inventory shall also be taken and a copy forwarded to SRS.

10.2 Storage

The inventory of chemicals kept on-hand should be as small and practical as possible. Storage on bench tops and in fume hoods is not advised, exposure to heat or direct sunlight should be avoided, and the expiration dates which appear on labels made by chemical manufacturers should be adhered to. Many chemicals lose their usefulness over time due to degradation with age. Economies of scale (buying large or bulk amounts) usually cost more in the long run due to the cost of disposing old, unwanted chemicals as hazardous waste and increases the potential and severity of fire, explosion, or spills in the event of an accident.

Physical inventory of chemicals on hand should be conducted periodically:
• To identify containers which are leaking.
• To identify containers which are damaged (corroded, cracked, or dented) and may begin leaking.

• To identify materials which are unknown (labels missing or illegible).
• To identify chemicals which are no longer needed.
• To test for peroxides.

Chemicals in damaged or leaking containers shall be repackaged into new, sound containers and relabeled. Fading or damaged labels need to be reattached or replaced before the material(s) become unknown. A list of unwanted chemicals should be submitted to SRS for pick-up and disposal. Chemicals shall also be segregated to minimize the hazard(s) associated with accidental mixing. In general, chemicals should be segregated according to the following categories:

-Solvents, including flammable/combustible liquids and halogenated hydrocarbons (acetone, benzene, ethers, alcohols, etc.).
-Acids
-Bases
-Oxidizers
-Poisons
-Flammable

More categories/segregation may be required depending on the specific chemical(s) being stored.

10.3 Requirements for possession of CDC and USDA select agents

The Center for Disease Control and Prevention (CDC) regulates possession, use, and transfer of select agents and toxins that have the potential to pose a severe threat to public health and safety. The CDC Select Agent Program oversees these activities and registers all laboratories and other entities in the United States that possess, use, or transfer a select agent or toxin. Please see Appendix A for the list of select agents. Possession of any of these select agents requires registration with the CDC (unless amounts are exempt as outlined in Section 3.4). Please contact the department of Safety, Risk, & Sustainability at ext. 6320 to begin the registration process.

10.4 Requirements for possession of exempt quantities of CDC select agent toxins

The Center for Disease Control and Prevention, (CDC), has established a list of select agent toxins with allowable maximum limits which may be possessed without registering with the CDC, provided the maximum limits are not exceeded by a Principal Investigator (PI). Please see Appendix B for the list of exempt quantities of select agent toxins and the requirements for storage and handling of these agents at California State University, Bakersfield.

11.0 Supplementary

If a university employee has any questions and would like more information regarding the Chemical Hygiene Plan, or would like to arrange for training, please contact SRS at extension 6032. The department of Safety, Risk, & Sustainability is located in the Administration West building, room 103.