

**CALIFORNIA STATE UNIVERSITY,  
LOS ANGELES**

**INCIDENT RESPONSE PLAN**

**August 2019**

**PROGRAM APPROVAL AND AUTHORIZATION**

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**William A. Covino, President**

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Date**

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## 1.0. PURPOSE:

Despite the best efforts of faculty and students to work carefully in the academic laboratory, accidents resulting in the release of chemicals or hazardous waste will occur. Likewise, the potential for spills in Risk Management/Environmental Health and Safety (RM/EHS) storage areas also exists. This plan will address any incidents or chemical spills.

NOTE: Throughout this Plan, the term “chemical” shall also refer to hazardous waste. For this reason, it is essential that all personnel working in such areas or others where chemicals are used or stored know the appropriate procedures for responding to a chemical spill. RM/EHS shall ensure that such personnel receive training in these procedures.

## 2.0. DEFINITIONS:

- 2.1. Biohazardous Waste - Any waste containing infectious materials or potentially infectious substances such as blood. Of special concern are sharp wastes such as needles, blades, glass pipettes, and other wastes that can cause injury during handling.
- 2.2. RM/EHS – Includes the RM/EHS director and assistant director, as well as the Chemical and Radiation Safety Officers, Hazardous Material Technician/Biological Safety Officer, Health and Safety Coordinator, Emergency Manager/Business Continuity Plan Officer and student assistants. The purpose of RM/EHS is to provide the guidance, programs, training, and direction to campus shareholders such as, students, faculty and staff, to ensure that California State University, Los Angeles (Cal State LA) exhibits the highest level of environmental stewardship, and the highest degree of shareholder health and safety protection possible.
- 2.3. Facilities Services - Provides a myriad of services to ensure safe, functional, attractive and sustainable facilities and infrastructure for the campus community.
- 2.4. Hazardous Communications Program – Designed to increase employee awareness of hazardous chemicals used in the workplace so they can recognize known and potential hazards and take proactive measures to minimize harm to themselves, others, and the environment.
- 2.5. Hazardous Waste - Waste that has substantial or potential threats to public health or the environment. Hazardous wastes are materials that are known or tested to exhibit one (1) or more of the following hazardous traits: ignitability, reactivity, corrosivity, and toxicity. Hazardous waste may include corrosive, flammable and toxic compounds.
- 2.6. Injury Illness Prevention Program (IIPP) - A basic written workplace safety program. Title 8 of the California Code of Regulations (CCR), Section 3203, requires every employer to develop and implement an effective IIPP. An effective IIPP improves the safety and health in the workplace and reduces costs by good management and employee involvement. These required IIPP elements are: responsibility, compliance, communication, hazard assessment, accident/exposure investigation, hazard correction, training and instruction, and recordkeeping.
- 2.7. Personal Protective Equipment (PPE) - Equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses, which may result from contact with chemical, radiological, physical, electrical, mechanical, or other hazards. PPE may include items such as gloves, safety glasses and shoes, earplugs or muffs, hard hats, respirators, coveralls, vests and full body suits.
- 2.8. Principal Investigator (PI) - The primary individual responsible for the preparation, conduct, and administration of a research grant, cooperative agreement, training or public service

project, contract, or other sponsored project, in compliance with applicable laws and regulations. PIs are typically found within the biology and chemistry departments and may also include the field of engineering and technology as well as other campus departments involved in scientific research.

- 2.9. Safety Data Sheet (SDS) - A written or printed material concerning a hazardous chemical that is prepared in accordance with the Globally Harmonized System (GHS).
- 2.10. Toxic Compounds - Carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes.
- 2.11. Unstable (reactive) - A substance which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or become self-reactive under conditions of shocks, pressure, addition of water, or temperature.

### 3.0. REFERENCES/STATUTORY AUTHORITY:

- 3.1. Title 8, CCR, Section 5192 - Hazardous Waste Operations and Emergency Response.
- 3.2. Cal State LA Hazardous Communications Program.
- 3.3. Cal State LA IIPP.

### 4.0. CHEMICAL SPILL CATEGORIES:

Chemical spills will fall into two (2) categories, minor and major, which are characterized by the following:

#### 4.1. Minor Chemical Spill

##### 4.1.1. Defining Factors

- Chemical is known
- Does not pose an immediate or potential significant risk to safety or health (i.e., no fire, explosion or chemical exposure hazard)
- Does not have the potential to become an emergency
- Can be absorbed, neutralized or otherwise controlled and cleaned up by spill response personnel in the immediate area
- For corrosives and flammables chemicals, <1 liter is considered a minor spill

##### 4.1.2. Actions Needed

Trained laboratory and RM/EHS personnel are responsible for the following:

- Alert people in the immediate area of spill and evacuate them as necessary
- Isolate the area by closing doors, etc., as necessary
- If spilled material is flammable, remove or turn off ignition and heat sources and unplug nearby electrical equipment
- Establish exhaust ventilation, if possible, by turning on fume hoods; avoid breathing vapors from the spill
- Locate the spill kit (See Section 6.0. of this procedure)
- Put on PPE, including safety goggles, suitable gloves and long-sleeved lab coat

- Confine and contain the spill by applying appropriate absorbent material (i.e. socks/pillows/pads, etc.), first around the outside of the spill, encircling the spilled material, then absorb to the center of the spill
- Use appropriate materials to neutralize inorganic acid and base spills
- For solid/dry chemical spills, cover the spill with a slightly damp paper towel to avoid creating a cloud of dust and push the material into a dustpan or other collection receptacle using the towel
- Wet mop the spill area; be sure to decontaminate the broom, dustpan, etc., with soap and water
- Place all contaminated PPE into hazardous waste containers
- Store waste in designated area until waste pick-up is scheduled
- For any oil, paint, sewage, coolant and blood found in vomit spills, cleanup will be done by Facilities Services. RM/EHS may assist as needed
- For any blood only spills RM/EHS will respond
- Contact Facilities Services to obtain cleanup assistance if necessary
- Complete the Hazard/Incident Report form (See Appendix B), also located on the RM/EHS website: <http://www.calstatela.edu/ehs>
- Notify RM/EHS at [RMEHS@calstatela.edu](mailto:RMEHS@calstatela.edu) or call 323-343-3531 or extension 3-3531

## 4.2. Major Chemical Spill

### 4.2.1. Defining Factors

- Chemical is unknown
- Chemical is highly toxic or reactive
- Poses an immediate significant risk to health
- Involves a fire hazard outside a fume hood or an explosion risk
- Involves injury to personnel in the vicinity
- For corrosives and flammables chemicals, a 55-gallon drum or larger spill is considered a major spill.

### 4.2.2. Actions Needed

Laboratory personnel are responsible for the following:

- Attend to any injured or contaminated persons and remove them from exposure
- Alert people in the immediate area to evacuate
- Call Public Safety at 323-343-3700 or extension 3-3700 for potential or actual fire or risk of explosion or if injuries are involved. Provide as much of the following information as is known:
  - Name and address of the facility,
  - Time and type of incident (e.g., spill, fire),
  - Name and quantity of the chemical(s) involved,
  - Location of the incident on campus,
  - Nature and extent of any injuries or damage incurred, if any,
  - Control measures taken, and
  - Your name and phone number (or where you will be located) and how you can be identified.

- Possible hazards to human health, or the environment, outside the facility
- Use eyewash or safety showers in other areas, as needed, to rinse spilled chemicals off contaminated persons
- If spill material is flammable turn off ignition and heat sources if that can be done safely
- Activate the nearest fire alarm (**unless there is a chance of explosion from the chemical spill**), and evacuate the building if danger is believed sufficient. If a possibility of explosion exists by activating the fire alarm, evacuate the building manually by alerting others by voice.
- Close doors to affected area
- Meet first responders

#### 4.3. Biohazardous Spill Cleanup

- Warn others in the area about the spill and prevent others from entering area.
- If aerosols are created due to the spill, leave/block-off area for thirty (30) minutes to allow aerosols to settle and prevent others from entering area.
- PPE requirements: **lab coat, gloves, eye protection**
- Prevent spill from spreading by placing absorbent material (*paper towels, spill pads*) over the spill.
- Mix a fresh batch of ten percent (10%) bleach solution and pour over spill (*start from the outer edge of the absorbent material and slowly work your way to the center*).
- Allow bleach solution to sit in contact with the spill for fifteen (15) – *thirty (30) minutes*. Select longer contact time if organic matter is present.
- Use a broom and dustpan to collect absorbent material.
- Use tongs if broken glass/sharps are present.
- If areas made of metal were impacted wipe down spill cleanup area with seventy percent (70%) *ethanol solution* to help prevent rusting or metal damage.
- The spill will be collected and disposed as biohazardous waste. Any broken glass/sharps will be collected in sharps containers.
- Remove PPE and discard as biohazardous waste.
- Thoroughly wash hands with soap and water.
- Report the incident to the PI and contact RM/EHS at 323-343-3531 or extension 3-3531.

#### 5.0. RESPONSIBILITIES:

##### 5.1. RM/EHS will:

5.1.1. Upon receiving notice of a chemical spill, send a responder to the incident.

5.1.1.1. In the event safety personnel are not at the scene of the spill, a University Police Officer or patrol will relay any specific information about the spilled substance through the dispatcher to the responding personnel. Upon receipt of the information, RM/EHS will respond to the scene, if necessary.

5.1.1.2. Inform the responsible lab technician, principal investigator, department chair and/or dean.

5.2. Public Safety will:

- 5.2.1. Notify the manager, director or chair of the area in which the spill occurred.
- 5.2.2. Remove all unauthorized personnel from the area and provide for a required fifty (50) ft. minimum safety zone around the spill.
- 5.2.3. Evaluate the situation or on advice from safety personnel notify local fire services.
- 5.2.4. Notify Facilities Services at 323-343-3440 or extension 3-3440 if ventilation control of the area, and/or electrical, plumbing, or custodial assistance is needed.
- 5.2.5. Obtain company name and insurance carrier if spill involves an outside vendor.

6.0. SPILL CONTROL/CONTAINMENT AND CLEANUP MATERIALS/SUPPLIES:

- 6.1. Every laboratory that uses chemicals must have access to a spill control kit appropriate to the chemicals used with at least enough containment and cleanup materials to handle a one (1) gallon spill of liquid or one (1) kg of dry chemical (or the largest container in the laboratory). Although the contents of most spill kits are common items that may be found throughout the lab, they must be consolidated into a kit for quick access in the event of an emergency. In addition, each laboratory, especially those with floor drains, should stock spill socks, pillows, pads and/or enough bulk absorbent to contain the spilled material away from the drain. Spill kits must be located strategically near work areas so they are easily accessible in an emergency.
- 6.2. The following is a list of recommended items for a chemical spill kit:
  - 6.2.1. PPE if not already being worn (should be in a separate sealed container)
    - a. Safety goggles
    - b. Protective gloves (e.g., neoprene, latex, nitrile)
    - c. Long-sleeved lab coat and corrosives apron
    - d. Plastic vinyl booties
  - 6.2.2. Absorbents/Neutralizers
    - a. Spill socks, pillows or pads in sufficient quantity to contain a spill and keep it away from any floor drains
    - b. Universal spill absorbent – a 1:1:1 mixture of unscented kitty litter, sodium bicarbonate and sand. This all-purpose absorbent is good for most chemical spills, including solvents, acids and bases. Other commercially available absorbents, such as vermiculite, also may be used
    - c. Solvent absorbent – inert absorbent such as vermiculite, clay or sand
    - d. Acid spill neutralizer – sodium bicarbonate, sodium carbonate or calcium carbonate
    - e. Alkali (base) spill neutralizer – sodium bisulfate
  - 6.2.3. Cleanup Materials
    - a. Broom, plastic dustpan and scoop
    - b. Thirty (30) gallon, three (3) mil thick plastic bags for contaminated PPE
    - c. One (1) five (5) gallon polyethylene plastic bucket with lid for spill and absorbent residues

#### 6.2.4. Other

- a. Mercury spill cleanup kit
- b. pH paper
- c. Tongs

Commercial spill kits also can be purchased through most vendors that sell chemicals or safety supplies. Spill kits must be checked periodically and replenished after each use.

#### 6.4. SDS

6.4.1. If you are not sure of the chemical you are going to clean you will need to consult the SDS. Pay attention to:

- Section 2 - Hazard(s) identification
- Section 4 - First aid measures
- Section 6 - Accidental release measures

These sections will tell you what you need to be aware of when cleaning up a spill. For the most part, many acids usually get neutralized with a base (sodium bicarbonate). Flammables will need to be cleaned as is...meaning without any neutralizer.

#### 6.5. Use of Eye and Face Protection

- Eye protection (e.g., safety glasses, goggles) and face protection (e.g., face shield) are required to be worn in posted areas and during tasks that create eye and/or face hazards.
- Safety glasses with side shields are required to be worn to protect the eyes from flying particles, objects, chips, etc.
- Goggles are required to be worn to protect the eyes from corrosive chemicals (e.g., acid, base) splash hazards, dust hazards, etc.
- Depending on the type of hazard, you must use safety glasses with side shields or goggles underneath face shields.

#### 6.6. Use of Lab Coat

- If a chemical splashes on the lab coat while cleaning, quickly remove the coat.
  - Removing the outer layer of clothing reduces chemical contamination by eighty percent (80%).
  - If using disposable lab coats, dispose as hazardous waste.
- Protects clothing from destructive chemicals (dyes, corrosives); make sure to wearing closed toe shoes and no shorts.

#### 6.7. If you are not comfortable cleaning up a spill

- Leave the spill where it falls. Do not attempt to handle the material or any container that is part of the spill with bare hands.
- Alert room occupants of the spill. If material is flammable, turn off ignition sources.
- Have needed equipment and PPE; review SDS if necessary.
- Collect all contaminated material and place in waste container.
- Label waste container and put in satellite accumulation area.



- If unsure, for assistance contact:
  - RM/EHS at 323-343-3531 or extension 3-3531 during business hours, or
  - Public Safety at 323-343-3700 or extension 3-3700 after business hours.

#### 6.8. Storage

- Once cleanup is complete, inform the Hazardous Material Technician and/or Chemical Safety Officer of the incident. The Chemical Safety Officer can be contacted at 323-343-3546 or extension 3-3546, and the Hazardous Material Technician can be contacted at 323-343-6359 or extension 3-6359.

#### 6.9. Useful Information

- Contact Information
  - Public Safety - 323-343-3700 or extension 3-3700
  - RM/EHS - 323-343-3531 or extension 3-3531
- If a person has come into contact with chemicals
  - Assist them to the shower/eyewash
  - Remove contaminated clothing
  - Wash for a minimum of fifteen (15) minutes
- Emergency Response Personnel will respond and provide first aid and arrange for transport to the hospital.
- Spill Training Video: <https://www.youtube.com/watch?v=18Kmo-1U1fc>
- Laboratory Safety Training Video: <https://www.youtube.com/watch?v=Ntp47Kdku3I>

### QUICK REFERENCE FOR CHEMICAL SPILL CLEANUPS

The table below provides a synopsis of the type of chemicals that may be spilled and the recommended cleanup materials and procedures. As always, the Safety Data Sheet (SDS) for the particular chemical is the preferable reference. If you choose to purchase prepackaged, commercially available spill kits, the cleanup procedures shown in the table below would be modified to reflect the specifics (e.g., Acid).

<b>Chemical Spilled</b>	<b>Cleanup Procedures</b>
Acids, Organic	Apply sodium bicarbonate. Absorb with spill pillow or vermiculite.
Acids, inorganic	Apply sodium bicarbonate/calcium oxide or sodium carbonate/calcium oxide. Absorb with spill pillow or vermiculite.
Aldehydes	Absorb with spill pillow or vermiculite.
Aliphatic Amines	Apply sodium bisulfite. Absorb with spill pillow or vermiculite.
Aromatic Amines	Absorb with spill pillow or vermiculite. Avoid skin contact or inhalation.
Aromatic Halogenated Amines	Absorb with spill pillow or vermiculite. Avoid skin contact or inhalation.
Azides	Absorb with spill pillow or vermiculite. Neutralize with ten percent (10%) ceric ammonium nitrate solution.
Bases (Caustic Alkalis)	Neutralize with acid, citric acid or commercial chemical neutralizers. Absorb with spill pillow or vermiculite.
Chlorohydrins	Absorb with spill pillow or vermiculite. Avoid skin contact or inhalation.
Cyanides	Cover solids with damp paper towel and push onto dustpan or use a HEPA filter vacuum to collect the solids. Absorb liquids with spill pillow or vermiculite.
Halides, organic or inorganic	Apply sodium bicarbonate. Absorb with spill pillow or vermiculite.
Halogenated Hydrocarbons	Absorb with spill pillow or vermiculite.
Hydrazine	Avoid organic matter. Apply "slaked lime." Absorb with spill pillow or vermiculite.
Inorganic Salt Solutions	Apply soda ash. Absorb with spill pillow or vermiculite.
Mercaptans/Organic Sulfides	Neutralize with calcium hypochlorite solution. Absorb with spill pillow or vermiculite.
Nitriles	Sweep up solids. Absorb liquids with spill pillow or vermiculite.

Nitro Compounds/Organic Nitriles	Absorb with spill pillow or vermiculite. Avoid skin contact or inhalation.
Oxidizing Agents	Apply sodium bisulfite. Absorb with spill pillow or vermiculite.
Peroxides	Absorb with spill pillow or vermiculite.
Phosphates, Organic and Related	Absorb with spill pillow or vermiculite.
Reducing Substances	Apply soda ash or sodium bicarbonate. Absorb with spill pillow or vermiculite.
Waste Acid Liquids	Apply sodium bicarbonate. Absorb with spill pillow or vermiculite.
Waste Basic/Caustic Liquids	Neutralize with acid, citric acid or commercial chemical neutralizers. Absorb with spill pillow or vermiculite.
Waste Fixer	Absorb with spill pillow or vermiculite.
Waste Flammable Liquids	Absorb with spill pillow or vermiculite.
Waste Flammable Solids	Sweep up solids. Absorb liquids with spill pillow or vermiculite.



# HAZARD/INCIDENT REPORT

To: Risk Management & Environment Health & Safety Office (RM/EHS)  
Corporation Yard, Room 244

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

From: Name: \_\_\_\_\_ (Optional)

Dept./Area: \_\_\_\_\_

Extension: \_\_\_\_\_ (Optional)

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\* Type of Hazard/Incident & Location:

Description of Hazard/Incident:

Additional Comments: (Related historical actions, requests, or experiences)

Investigator's Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(RM/EHS Staff Only)

Corrective Action(s) Taken:

Signature of Closure Validation: \_\_\_\_\_ Date: \_\_\_\_\_  
(RM/EHS Staff Only)