



SOUTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT
SADDLEBACK COLLEGE ♦ IRVINE VALLEY COLLEGE ♦ ATEP

SOCCCD

Chemical Hygiene Plan

Office of Risk Management
District Business Services
Adopted: 8/21/18



SOUTH ORANGE COUNTY COMMUNITY COLLEGE DISTRICT CHEMICAL HYGIENE PLAN

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I. Purpose

The California Occupational Safety and Health Administration (Cal/OSHA) under Title 8 Regulations §5191 has promulgated a standard entitled, Occupational Exposure to Hazardous Chemicals in Laboratories, which applies to all laboratories that use hazardous chemicals. This section defines a Chemical Hygiene Plan as a written program developed and implemented by an employer which sets forth procedures, equipment, personal protective equipment, and work practices that are capable of protecting employees from the health hazards presented by hazardous chemicals used in that particular work place and meets the requirements of subsection 5191(e). It specifies that a written chemical hygiene plan must be developed and implemented that includes the necessary work practices, procedures, and policies to ensure that employees are protected from hazardous laboratory chemicals. As required by Cal/OSHA, this Chemical Hygiene Plan (CHP) has been prepared for use by all employees and laboratory students in the safe operation of laboratories. South Orange County Community College District's (District) intent to promote safe laboratory work practices and procedures throughout the District.

II. Scope & Policy

This plan applies to all areas within the District where any person whose act or process may cause workplace exposures to hazardous chemicals, including all laboratories that use hazardous chemicals. The CHP sets forth procedures, equipment, personal protective equipment (PPE), and work practices used to protect employees from the health hazards presented by the use of chemicals within the District. Components of the CHP include responsible personnel, standard operating procedures (SOPs) for safety and health, engineering control measures, proper operation of engineering controls, provisions for training and information dissemination, provisions for medical examination and consultation, special precautions, and identification of particularly hazardous substances. The CHP shall be supplemented by each District site (Advanced Technology Education Park, Irvine Valley College, and Saddleback College) in order to add the laboratory specific information, policies, and procedures to this CHP, usually in the form of a Lab Safety Plan for each department or division.

The CHP will work in conjunction with the District Hazard Communication Program for all District members involved in any use of hazardous chemicals, as it is a portion of the District's Injury and Illness Prevention Program (IIPP). The CHP incorporates guidelines set forth by the California Code of Regulations, Title 8, Sections 5191 (hazards in chemical labs), 5139 (standards for dust, mites, vapors, and gases), 5154.1 (fume hoods), 5155 (airborne contaminants), and 5194 (Hazard Communication). Additionally, the CHP incorporates measures set forth by the Federal Code of Regulations (Part 29, Section 1910.1450 Occupational Exposure to Hazardous Chemicals) and by the National Research Council (*Prudent Practices in the Laboratory: Handling and Management of Chemical Hazards*).

III. Responsibility

The District is responsible for this plan and its work areas, including reviewing and updating the plan regularly, when procedures change or when a risk assessment of procedures is conducted. The colleges (Irvine Valley College, Saddleback College) have the authority to make decisions to ensure the success of the plan. All questions regarding plan requirements should be directed to District Risk Management in District Business Services. This plan is available to all District employees on the District SharePoint website.

In addition to the CHP, each Academic Division and/or School is responsible for developing a Lab Safety Plan to address the regulatory requirements specific to each laboratory room, such as Standard Operating Procedures (SOPs), and Chemical Inventories. The Lab Safety Plan must also address health and safety concerns that are not part of the CHP, such as biosafety and radiation safety.

A. Plan Coordinators

The overall responsibility for the management and support of this CHP lies with the Vice Chancellor of Business Services and the College Presidents, designated as "**CHP Coordinators**".

Responsibilities include, but are not limited to:

- 1) Work with “Site Managers” to develop and administer the policies or practices required to support the effective implementation of this Plan.
- 2) Work with other members of the District staff to ensure that adequate training, review, and implementation of the CHP are being completed.
- 3) Implement suitable education/training programs for employees.

B. Risk Management

District Risk Management is responsible for providing guidance, resources, and assistance with development of CHP guidelines.

Responsibilities include:

- 1) Consult with and notify management of laboratory regulations and requirements.
- 2) Ensure this plan is updated and in compliance with state and federal regulations.
- 3) Manage employee occupational injuries/illnesses related to hazardous chemicals.
- 4) Maintain employee exposure monitoring and medical surveillance records.
- 5) Report to Executive Director of Procurement, Central Services, and Risk Management on the status of compliance with laboratory regulations and implementation of this plan.

C. Purchasing Department

The District Purchasing Department is responsible for providing guidance, resources, and assistance with the acquisition of laboratory equipment and materials.

Responsibilities include:

- 1) Develop and maintain a list of approved laboratory suppliers.
- 2) Research, select, and publish purchasing options.
- 3) Ensure that all orders use the District’s list of approved suppliers.

D. Site Managers

Administrators, Division Deans, Department Chairs, and Classified Managers designated as “Site Managers” are responsible for implementing the CHP at the local operational level for all areas under their supervision. Site Managers are responsible for ensuring safe work practices are followed when hazardous chemical exposures are present.

Responsibilities include, but are not limited to:

- 1) Identify and manage hazardous chemical exposures.
- 2) Ensure suspected or known laboratory injuries and illnesses are identified and reported to District Risk Management immediately.
- 3) Ensure work-related injuries/illnesses are investigated and corrective action is identified and implemented.
- 4) Ensure elements of the CHP are implemented and maintained, and that employees follow established safety procedures.
- 5) Ensure sufficient budgeting is allocated for laboratory improvements.
- 6) Ensure all laboratory equipment, materials, and tools are ordered from approved suppliers.
- 7) Coordinate annual chemical inventory with District Risk Management.
- 8) Maintain a copy of this written plan available in the workplace.

- 9) Maintain records of health and safety training of laboratory employees, annual general laboratory inspections, monthly testing of emergency eyewashes, and deluge showers, annual fume hood surveys. Provide copies of training records to District Risk Management. Records must be kept for a minimum of 5 years.

E. Chemical Hygiene Officer

The Chemical Hygiene Officer (CHO) is in charge of reviewing the CHP annually to determine whether or not the content is still effective and valid, and shall give recommendations for updating the CHP to District Risk Management. The CHO shall provide technical guidance to personnel at all levels of responsibility on matters pertaining to laboratory safety.

Responsibilities include, but are not limited to:

- 1) Perform hazard assessment of overall operations to determine the appropriate safety control requirements which include laboratory practices, Personal Protective Equipment (PPE), engineering controls, and training.
- 2) Review industrial hygiene monitoring data and reports for evidence of personnel exposure and/or equipment contamination.
- 3) Review and approve SOPs.
- 4) Review chemical inventories from departments and facilities that house hazardous substances.
- 5) Determine medical surveillance requirements of personnel, such as pulmonary medical clearance prior to use of respiratory equipment.
- 6) Review plans for new laboratory programs and classes to assess compliance with CHP.
- 7) Audit Lab Safety Plans and laboratory specific programs to assess compliance on local, state, and federal levels.
- 8) Provide technical assistance on storage, classification, compatibility, and hazards of chemicals.

CHO contact information: Fill-in the box below with the contact information for the current CHO designated for your work site, and update this information as needed.

Chemical Hygiene Officer - Saddleback College & District Services	
Name: Tony Huntley	Title: Biology Instructor
Site/Division/Dept.:	Saddleback College/Math, Science & Engineering/Biology
Phone/Email:	(949) 582-4401 thuntley@saddleback.edu

Chemical Hygiene Officer - Irvine Valley College (Chemistry) & ATEP	
Name: Dale Carranza	Title: Chemistry Instructor
Site/Division/Dept.:	Irvine Valley College & ATEP/Math, Science & Engineering/Chemistry
Phone/Email:	(949) 451-5642 dcarranza@ivc.edu

Chemical Hygiene Officer - Irvine Valley College (Biology)	
Name: Diana Hurlbut	Title: Biology Instructor
Site/Division/Dept.:	Irvine Valley College & ATEP/Math, Science, & Engineering/Biology
Phone/Email:	(949) 451-5444 dhurlbut@ivc.edu

F. Employees / Laboratory Personnel

District employees and laboratory personnel are responsible to review and acknowledge receipt of the CHP and shall follow the procedures outlined within this CHP and the specific ones within their site Lab Safety Plan and laboratory procedures.

Employees are responsible for, but are not limited to:

- 1) Understand what tasks they perform that may have occupational exposures to chemicals.
- 2) Report all chemical exposures, conditions, injuries or illnesses immediately to their direct supervisor.
- 3) Actively participate in trainings and assessments presented by the District, including Hazard Communication, Bloodborne Pathogens Exposure Prevention, Chemical Handling, and others related to chemical safety and safe laboratory practices.
- 4) Follow all procedures and practices reviewed in training classes, safety meetings, related memos and safety bulletins.
- 5) Report chemical hygiene concerns to their direct supervisor promptly.

G. Custodial & Maintenance Personnel

District custodial and maintenance personnel assigned to buildings which laboratory activities involving hazardous substances is conducted are responsible for, but are not limited to:

- 1) Attend Hazard Communication training, which familiarizes those individuals with potential hazards of performing normal work tasks in a laboratory setting.
- 2) Actively participate in trainings and assessments presented by the District.
- 3) Report unsafe conditions to immediate supervisor.

IV. Laboratory Safety Inspections

Laboratory Safety Inspections

The District has implemented the following inspections based on regulatory requirements. The Site Manager, or designee, shall confirm these inspections are completed as outlined. The use of the *Laboratory Safety Checklist* (see Appendix A) is encouraged.

- A. Emergency eyewash stations and deluge showers testing shall be performed monthly to ensure proper operation.
- B. Fume hood ventilation rate surveys shall be conducted annually by an external fume hood service provider. Ventilation rate surveys shall also be conducted after any changes have been made to the ventilation system and/or other engineering controls that affect airflow.
- C. General laboratory safety / housekeeping inspections shall be performed annually.
- D. PPE shall be inspected on a regular basis for adequate use and condition.

V. Recordkeeping

Records must be kept for a minimum of five (5) years by the Divisional main office. Copies of employee trainings and safety inspections/testing should be forwarded to District Risk Management. Recordkeeping shall include the following items:

- A. Changes to the CHP.
- B. Health and safety training for employees working in the laboratory or around hazardous substances.
- C. Annual general laboratory inspections by the department, division/school, or college.
- D. Monthly testing of emergency eyewashes and deluge showers by each respective site.

- E. Annual fume hood surveys.

VI. Standard Operating Procedures: General Laboratory Guidelines

This section outlines general laboratory guidelines for safe laboratory practices, including the use and handling of chemicals within the laboratory. The Site Manager is responsible to ensure that all laboratory faculty and staff members are trained in the use of these procedures. Faculty are responsible to ensure that all laboratory students are made aware of these procedures as well. Contact the Site Manager, CHO, or District Risk Management office with all safety questions or concerns.

A. General Guidelines

- 1) Follow standard operating procedures at all times.
- 2) Unauthorized persons should not be allowed in the laboratory.
- 3) Report unsafe conditions to the Site Manager or CHO immediately.
- 4) Avoid working alone in the laboratory when conducting experiments or procedures involving hazardous substances/materials.
- 5) Follow assigned work schedules unless a deviation is authorized by the area supervisor.
- 6) Notify supervisors of chemical sensitivities or allergies.
- 7) Read the Safety Data Sheet (SDS) and label before using a chemical.
- 8) Know the location and proper use of safety equipment.
- 9) Plan safety procedures before beginning any operation.
- 10) Maintain situational awareness.
- 11) Make others aware of special hazards associated with your work.
- 12) Unauthorized experiments (Not part of curriculum) should not be performed.
- 13) Eating, drinking, gum chewing, smoking, or the application of cosmetics and contact lenses are not permitted in the laboratory classrooms, preparation area, or in any area that contains hazardous substances.
- 14) Food and drink for consumption is not permitted or allowed to be stored in the laboratory.
- 15) Laboratory refrigerators, ice chests, cold rooms, and ovens should not be used for food storage or preparation.
- 16) Pipetting by mouth is prohibited.
- 17) Handling chemicals is limited to amounts that do not exceed the [CalOSHA Permissible Exposure Limits](#) (PELs) or the [American Conference of Governmental Industrial Hygienists](#) (ACGIH) [Threshold Limit Values](#) (TLVs). <https://www.osha.gov/dsg/annotated-pels/>
- 18) Properly dispose of chemical wastes. Refer to District Waste Management Program, available on District SharePoint or request from District Risk Management.

B. Hygiene and Conduct

The most common routes of entry of hazardous substances into the body are inhalation, ingestion, and skin contact. The harmful effects of hazardous substances can be reduced if the following considerations are taken.

- 1) Hands should be washed frequently with soap and water to reduce chemical exposure through ingestion or skin contact.
- 2) Long hair, loose clothing, and loose jewelry should be tied down to prevent accidental exposure.
- 3) Clothing should be worn that minimizes exposed skin (i.e. long pants, etc.).

- 4) Closed toe and closed heel shoes are required in the laboratory. Individuals wearing sandals or flip flops are not allowed in the laboratory.
- 5) Standard PPE should be available for use including approved eyewear and gloves. Wear appropriate PPE at all times.
- 6) Inappropriate behavior that might startle and/or distract another individual should be avoided to prevent sudden reactions and accidents.
- 7) Dangerous activities, unsafe conditions, unsafe behavior, and any accidents should be reported immediately to the area supervisor, Site Manager, or in emergency situations Campus Police or 9-1-1.

C. Housekeeping

- 1) Work areas should be kept clean and uncluttered.
- 2) Equipment and supplies should be returned to their appropriate area after the lab session/class has finished.
- 3) Dry any wet floors to prevent slips and falls.
- 4) Keep aisles, walking areas, pathways to emergency equipment clear of any obstacles.
- 5) Do not clutter work area with unnecessary supplies/materials.

D. Laboratory Equipment

- 1) Equipment should only be used for its intended purpose.
- 2) All staff and faculty shall receive training and learn how to use the equipment prior to the first date of use.
- 3) Emergency equipment should be inspected periodically. Refer to Section IV for more details.
- 4) Damaged equipment should not be used. The inactive equipment should be labeled with the date of damage and that it is decommissioned until repaired or replaced.
- 5) Broken glassware shall not be used or repurposed.
- 6) Broken glassware shall be immediately disposed of in the labeled glass waste bin. Refer to the District Waste Management Program for more details.
- 7) Equipment should be periodically cleaned.
- 8) Equipment should receive preventative maintenance at a schedule based on manufacturer or professional recommendations.
- 9) All compressed gas cylinders should be secured to a cylinder rack or chained to a wall/bench using a two-point system with a shoe.
- 10) Shelves taller than five feet (5 ft.) should have seismic restraints to prevent items from falling.
- 11) Equipment greater than five feet (5 ft.) tall should be seismically secured to prevent falling.

VII. Standard Operating Procedures: Chemical Use and Management

The Site Manager, CHO, and employees working in the laboratory are responsible for the recognition of hazards related to the use, storage, and disposal of laboratory chemicals. The two most important aspects to the recognition process are ensuring that laboratory personnel have access to Safety Data Sheets (SDS) and that an inventory of laboratory chemicals is maintained.

A. SDS Information

SDS, formerly known as Material Safety Data Sheets (MSDS), are documents prepared by the manufacturer of the chemical and contain specific information related to the hazards, proper storage, safe handling, disposal, transport, etc. Each laboratory or area where hazardous chemicals are found is

required to keep and make available printed SDS for all chemicals housed or used in that area. The District also provides access to an online tool called Keenan SafeColleges SDS, which provides instant SDS documents for chemicals listed in the chemical inventory across all campuses and facilities. For information on how to access and training on how to Keenan SafeColleges SDS, consult District Risk Management.

SDSs are structured documents that follow the American National Standards Institute (ANSI) standardized SDS format and include the following 16 sections:

Section 1 gives details on *what the chemical or substance is*, Chemical Abstracts Service (CAS) number, synonyms, the *name of the company* issuing the data sheet, and often an *emergency contact number*.

Section 2 identifies the *OSHA hazardous ingredients*, and may include *other key ingredients* and exposure limits.

Section 3 lists the *major health effects* associated with the chemical. Sometimes both the acute and chronic hazards are given.

Section 4 provides *first aid measures* that should be initiated in case of exposure.

Section 5 presents the *fire-fighting measures* to be taken.

Section 6 details the *procedures to be taken in case of an accidental release*. The instructions given may not be sufficiently comprehensive in all cases, and local rules and procedures should be utilized to supplement the information given in the SDS.

Section 7 addresses the *storage and handling* information for the chemical. This is an important section as it contains information on the flammability, explosive risk, propensity to form peroxides, and chemical incompatibility for the substance. It also addresses any special storage requirements for the chemical (i.e., special cabinets or refrigerators).

Section 8 outlines the *regulatory limits for exposure*, usually the maximum PEL. The PEL, issued by the Occupational Safety and Health Administration, tells the concentration of air contamination a person can be exposed to for 8 hours a day, 40 hours per week over a working lifetime (30 years) without suffering adverse health effects. It also provides information on PPE.

Section 9 gives the *physical and chemical properties* of the chemical. Information such as the evaporation rate, specific gravity, and flash points are given.

Section 10 gives the *stability and reactivity* of the chemical with information about chemical incompatibilities and conditions to avoid.

Section 11 provides both the *acute and chronic toxicity* of the chemical and any health effects that may be attributed to the chemical.

Section 12 identifies both the *ecotoxicity* and the environmental fate of the chemical.

Section 13 offers suggestions for the *disposal of the chemical*. Local, state, and Federal regulations should be followed.

Section 14 gives the *transportation information* required by the Department of Transportation. This often identifies the dangers associated with the chemical, such as flammability, toxicity, radioactivity, and reactivity.

Section 15 outlines the *regulatory information* for the chemical. The hazard codes for the chemical are given along with principle hazards associated with the chemical. A variety of country and/or state specific details may be given.

Section 16 provides *additional information* such as the label warnings, preparation and revision dates, name of the person or firm that prepared the SDS, disclaimers, and references used to prepare the SDS.

B. Chemical Labeling

All chemicals and reagents must be labeled in accordance with the *Globally Harmonized System of Classification and Labeling of Chemicals (GHS)*. No employee will use, store, or allow any other person to use or store any hazardous substance in a laboratory if the container (including bags, barrels, bottles, boxes, cans, cylinders, drums and reaction vessels) does not meet the labeling requirements detailed below. (See APPENDIX B for sample label)

1) Purchased/Manufactured Chemicals

The existing label on a container from a supplier must not be removed, altered or defaced. If a chemical container's original label must be replaced, the new label must contain the same information as the original. All chemicals received by the District and any affiliated campus must have the following identifiers:

- Product identifier (Chemical name as it appears on the SDS)
- Hazard Warning(s) – provide users with an immediate understanding of primary health and/or physical hazards of the chemical through the use of words, pictures, pictograms, symbols, or any combination of these elements.
- Precautionary statement(s)
- Name, address, and telephone number of manufacturer, importer, or other responsible party

Markings must be legible, permanently displayed and written in English. If District or any facility receives a chemical without these markings, the chemical will NOT BE USED and the substance is to be sent back to the supplier.

Add to the commercially packaged chemicals the date received and date first opened. Also, add the expiration or "use by" date if one is not present.

2) Secondary Containers and Prepared Solutions

Hazardous substances transferred from the original manufacturer's container to portable or other vessels are referred to as "secondary containers". Secondary containers must comply with GHS labeling requirements except when the material is used within the work shift of the individual who makes the transfer.

All secondary containers shall be labeled with the following identifiers:

- Chemical name (as it appears on the SDS)
- Name of chemical manufacturer or person who prepared the solution
- Necessary handling and hazard information
- Concentration or purity
- Date prepared
- Expiration or "use by" date
- National Fire Protection Association (NFPA) code (not required)
- Common name (not required).

Any chemicals that are prepared or produced in the laboratory require special consideration:

- If the chemical substance is produced exclusively for the laboratory's own use, then the Faculty/Senior Laboratory Technician, with assistance from the Chemical Hygiene Officer, will determine if it is hazardous.
- If the chemical substance is produced as a byproduct whose composition is not known, it shall be assumed to be hazardous.

3) Containers in Immediate Use

These chemicals and reagents are to be used within a work shift or laboratory session.

Label all containers in immediate use with the following:

- Chemical name (as it appears on the SDS)
- Necessary handling and hazard information

4) Waste Containers

All containers used for chemical waste should be labeled in accordance with the District Waste Management Program, available on District SharePoint or request from District Risk Management.

C. Chemical Storage

Chemicals should be stored in designated facilities with ample routes of access, plenty of space for storage, and have chemicals segregated based on their compatibilities.

1) Compressed Gases

- Store away from external heat sources and away from falling objects that may cause damage
- Store upright and secured to a wall or post with valve protection caps
- Oxygen cylinders will be segregated from flammable gas cylinders by at least 20 feet by a non-combustible wall 5 feet high
- Oxygen storage areas will be clearly marked "Oxidizer"
- Flammable gas cylinder storage areas will be clearly marked "Flammable Gas" and "No Smoking or Open Flame"
- Gas cylinders will be marked with "Full" or "Empty"
- Gas cylinders will be clearly marked with the chemical or trade name
- Empty cylinders shall not be refilled except by suppliers
- All connecting hoses, couplings, and regulators shall be regularly inspected
- Check valves/traps shall be installed in the discharge line to prevent back flow into the cylinder
- Do not store aerosols in areas where temperatures may exceed 120° F

2) Cryogenics

- Store cryogenic chemicals (e.g. liquid nitrogen) per manufacturer recommendations
- Use appropriate PPE when dispensing, such as a face shield with goggles, cryogenic apron, and cryogenic protective gloves
- If accidental exposure, immediately rinse the skin with warm water for 15 minutes and then seek medical attention

3) Corrosive Liquids

- Store corrosives in a dedicated cabinet within a well-ventilated area
- Small quantities of corrosives can be stored on polyethylene shelves or ceramic trays that can contain spills/leaks
- Create spill containment barriers for storing bulk corrosives
- Acids will be segregated from substances they are reactive with (metals, oxides, cyanates, fluorides, hydroxides, amines, carbonate, and sulfides)
- Oxidizing acids will be segregated from organic acids and flammable substances
- Nitric acid will be segregated from other acids and bases
- Always wear splash proof goggles and the appropriate gloves when handling corrosives
- Areas that contain large quantities of corrosives shall be equipped with eyewash stations and deluge showers
- Corrosives should not be stored at or above eye level

4) Flammable Liquids

- Store in a well-ventilated area away from oxidizers and other sources of heat and ignition
- Store in covered, flammable storage cabinets with self-closing doors
- Never use air pressure to remove liquids from a drum or tank
- Provide spill containment equipment and material near storage areas
- All flammable liquid storing areas should be identified with signs and symbols
- Flammable liquids should not be dispensed from containers greater than 4 liters
- Use only approved safety cans or media bottles to dispense flammable liquids
- Fire extinguishers should be available within 50 feet of flammable storage areas
- Flammable storage areas should be clearly marked “No Smoking or Open Flame”

5) Oxidizers

- Store in a well-ventilated area
- Keep away from combustibles, organic matter, reducing agents, and sources of heat or ignition
- Keep oxygen canisters free of oil, grease, dirt, or other contaminants

6) Peroxides

- Peroxides and peroxide forms must be clearly labeled with pertinent information including the date opened
- Peroxide quantities should be limited to the minimum required
- Unused peroxides should not be returned to the container
- Spills should be cleaned up immediately
- Do not use metal utensils to handle peroxides
- Smoking, open flames, friction, or other heat sources and impact sources should be avoided while using peroxides
- Store at the lowest possible and appropriate storage temperature
- Peroxides must be diluted before disposal

7) Reactives

- Store in a cool, dry, and well-ventilated area
- Reactives should be kept away from sources of heat and ignition
- Water reactive material should not be stored in a room with an automatic water sprinkler system unless it is certain the material will remain dry
- Pyrophoric materials such as metals should be segregated from halogenated hydrocarbons, oxidizers, and moisture

8) Solvents

- Store and use in well-ventilated areas
- Keep away from flames or excessive heat
- Provide spill kits that are capable of handling accidental releases

9) Toxics

- Store in a container marked “Toxic”
- Dedicated cabinet should be kept locked
- Toxics should be used in a well-ventilated area
- Segregate toxics from acids
- Poison Control phone numbers should be posted in the designated room/area for poisons
- Highly toxic substances should only be used under strict supervision from the instructor/staff members

D. Waste Disposal

Disposing hazardous waste appropriately is critical toward protecting personnel, waste handlers, and the environment. Hazardous waste is defined as a substance or material that poses a hazard to human health or the environment when handled improperly. Types of hazardous waste include abandoned chemicals, unused chemicals, chemicals stored in deteriorating/shoddy containers, unlabeled chemicals, and containers with different types of labels.

- 1) Use labeled hazardous waste containers and follow the established procedures for waste control/reduction. Refer to the District Waste Management Program for more details.

VIII. Employee Training

Laboratory personnel shall be trained to ensure that they are aware and knowledgeable of the chemical hazards with which they work. General trainings on lab safety, chemical handling, chemical spills, PPE, and more are available through District Risk Management. Laboratory specific training is the responsibility of the department under direction from the Site Manager, who may delegate the actual training to third-party providers. The Site Manager should contact District Risk Management for guidance. Annual training records shall be maintained by the department and instructional/division office, and copies of records forwarded to District Risk Management.

A. Employee training shall be provided when:

- Initial assignment to work area where a hazardous substance is present
- Introduction of new hazards into the work area
- Specific regulation frequencies
- Employee training is identified as needed by the Site Manager or in consultation with District Risk Management

B. Laboratory employees shall, as a minimum, be trained in the following elements:

- Contents of the District CHP and Waste Management Program
- Location, availability, and applicable details of the CHP
- Locations and access to SDS, safe lab practices, chemical handling, chemical storage and emergency procedure documents
- Relevant contents of regulations of the chemicals in work area
- Relevant exposure limits of hazardous substances, along with signs and/or symptoms associated with exposure to hazardous substances used in the laboratory
- Methods and observations to detect the presence or release of a hazardous chemical
- Methods used to minimize chemical exposures, and measures employees can take to protect themselves from such hazards
- Physical, chemical, and health hazards of the chemicals in the work area

IX. Control Measures for Extremely Hazardous Substances

Additional control measures outside of general chemical hygiene are important to protect the user from extremely hazardous chemicals or carcinogens. The following precautions and procedures should be used in addition to all general rules and procedures mentioned in the CHP when handling the following types of chemicals.

A. Moderate, Chronic or High Acute Toxicity

- Maintain strict records of the amounts used and personnel involved
- Two personnel shall be present when handling hazardous substances that fall under this category
- Conduct preparations and experiments in fume hoods with chemicals that can create aerosols
- Prepare to contain accidental spills

- Only individuals with appropriate PPE should contain spills
- Other personnel shall be notified when the chemical is in use
- If cyanides are used, a posting should be in plain sight on the doors or chemical hoods
- Chemical waste in this category shall be placed in closed and impenetrable containers. The containers should be labeled with the contents, type of hazards, name of the individual using the substance, and the accumulation start date.

B. High Chronic Toxicity

- Any experimental work should be approved by the Site Manager and CHO
- Consult with the Maintenance and Operations Department and District Risk Management when appropriate
- Chemical containers shall be labeled with large warning signs stating “Warning! High Chronic Toxicity” or “Warning! Cancer Suspect Agent”
- All work with material of this category shall be performed in a fume hood designed to handle these types of substances
- Controlled areas shall be marked with signs indicating “Warning! Toxic Substance/Cancer Suspect in USE: Authorized Personnel Only”
- Be sure the controlled area is decontaminated prior to use with the extremely hazardous substance
- Personnel should remove PPE when leaving the controlled area and thoroughly wash hands, forearms, face, and neck

C. Cal-OSHA or Federal OSHA Carcinogens

1) Cal-OSHA Regulated Chemical Carcinogens

- Written approval from the department chair, CHO and Site Manager must be obtained before purchase/use.
 - Site Manager will assign duties involving Cal-OSHA Regulated Carcinogens to the users and ensure they are trained in the hazards of the operation prior to the assignment.
 - Site Manager will ensure engineering controls are installed and used, and correct work errors and conditions that may result in the release of Cal-OSHA Regulated Carcinogens.
 - Site Manager will consult District Risk Management to conduct personal exposure monitoring if area concentrations are suspected to exceed Cal-OSHA action levels.
 - Department Chair will prepare SOPs for specific Cal-OSHA Regulated Carcinogens or processes using these chemicals and submit to CHO and Site Manager for review and approval. Approved SOPs will be forwarded to District Risk Management.
- Maintain a current inventory of Cal-OSHA Regulated Carcinogens and a list of uses, as well as designated workplaces for use. Provide a copy to District Risk Management.
 - As prescribed by CCR §5203, District Risk Management will register the regulated carcinogens used within the District with the Division of Occupational Safety and Health.
- Report all accidents/incidents which result in the exposure of employees or the environment to a regulated carcinogen to your direct supervisor immediately.
 - The report shall include facts about the occurrence and any medical treatment administered.
- Supervisor must investigate all reported exposures and submit a *Supervisor’s Accident Investigation Report (FS#39)* to District Risk Management within 24 hours of an accident/incident.
- Use only in designated area with suitable warning signs for others.
 - All employees who work in designated areas must ensure that they understand and follow the requirements for the carcinogen used, including the contents of the SOPs.

- In addition to PPE, use appropriate engineering controls (i.e. fume hoods).
- Store chemicals in a chemically resistant container in a well-ventilated area.
- Decontaminate the area and all equipment in the fume hood before removing them.
- Use a vacuum with a HEPA filter vented into the hood when cleaning up dry material.
- Waste must be stored in a closed, labeled, and impenetrable container that is labeled with the contents, concentration, accumulation date, name of user, and a sign that states “Cancer-Suspect Agent”.

2) Federal OSHA Highly Hazardous Chemicals & Carcinogens

The current list of highly hazardous chemicals defined by OSHA can be found at the following link 29 CFR 1910.119 Appendix C

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9761&p_table=standards

X. Control Measures for Reducing Hazard Exposure

Engineering and administrative controls are important and effective methods for limiting personnel exposure to chemicals. The most effective way to prevent adverse health effects from chemical exposure is the substitution of less hazardous chemicals. Note that substitution is not always practical or feasible in laboratory operations; therefore the following controls can be implemented to reduce risk.

A. Engineering and Administrative Controls

Engineering controls are considered very reliable for protecting employees and the environment. Some examples of engineering controls are the following:

- Air containment removal devices (HEPA filters, cold traps)
- Biosafety, Flammable and Corrosive cabinets
- Chemical fume hoods
- Chemical segregation
- Closed systems
- Glove boxes
- Negative air pressure in the workplace
- Non-permeable work surfaces
- Secondary containers

Administrative controls for minimizing employee exposure to hazardous substances include:

- Following SOPs for laboratory work involving hazardous substances and general laboratory health and safety procedures.
- Review of plans for new and renovated laboratory equipment and work areas prior to construction
- Scaling down the size of the experiment
- Substitution of less hazardous equipment
- Prior approval for laboratory activities involving particularly hazardous substances or procedures

B. Ventilation

General lab ventilation shall provide airflow into the laboratory from non-laboratory areas and out to the exterior of the building. Ventilation is provided for two basic considerations:

- 1) The comfort of the building occupants; and
- 2) Health and safety considerations for individuals working in laboratories, preparation, and chemical storage facilities. Laboratory doors should remain closed except for egress and entrance. Local exhaust ventilation equipment is a commonly used engineering control in the

lab. Usually, this is a chemical fume hood, but it also includes ventilated bench top cabinets, spot exhaust devices, and filtered cabinets for using hazardous solids.

C. Biosafety, Flammable, and Corrosive Storage Cabinets

- 1) The Biological Safety Cabinet (BSC, aka. Biosafety Cabinet) is commonly used as a containment and protection device in laboratories working with biohazardous and infectious microorganisms. Cabinets are also used for maintaining aseptic conditions when working with cell cultures. The major functional element of a BSC is its ability to create a near-sterile environment through the use of High Efficiency Particulate Air (HEPA) filters. Thus, BSCs provide personnel, environmental, and product protection when appropriate practices and procedures are followed.

There are three different classes of BSCs which are not directly related to the Biological Safety Levels (BSLs) required for the microbiological agent being used. Generally, Class I and Class II cabinets can be used for work at BSLs 1 to 3. Class III cabinets are usually reserved for work at BSL4, although a Class II cabinet can be used at this level if the appropriate PPE is used.

- Class I BSC: A ventilated cabinet for personnel and environmental protection with non-recirculated inward airflow away from the user. The cabinet exhaust air is HEPA filtered before it is discharged to the outside atmosphere. This cabinet resembles a chemical fume hood with a filtered exhaust and is suitable for work with low and moderate risk biological agents where no product protection is required.
- Class II BSC: A ventilated cabinet for personnel, product and environmental protection having (1) an open front with inward airflow for user protection, (2) downward HEPA-filtered; laminar airflow for product protection, and (3) HEPA- filtered exhausted air for environmental protection. Class II cabinets are suitable for low- and moderate-risk biological agents. There are four recognized types of Class II biosafety cabinets that are widely used. These are Class II types: A, B1, B2, and B3. The nature of the particular research operation, the characteristics of a laboratory's exhaust system, and the mandated regulations will determine which type of Class II cabinet can be used.
- Class III Biosafety Cabinet: A totally enclosed ventilated cabinet of gas-tight construction. Operations in the cabinet are conducted through attached rubber gloves. The cabinet is maintained under negative air pressure of at least 0.5 inches (12.7 mm) water gauge. Supply air is drawn into the cabinet through HEPA filters. The exhaust air is treated by double HEPA filtration. Class III cabinets are suitable for high-risk biological agents and are accompanied by auxiliary safety equipment.

NOTE: Hazardous chemicals cannot be used in a biosafety cabinet. Damage to the cabinet could result in rendering the cabinet ineffective.

- 2) Flammable Cabinets should only be used to store flammable-type chemicals. The following are requirements when using and purchasing flammable cabinets.
 - Cabinets must comply with state NFPA standards
 - Cabinets must have self-closing door(s)
 - Cabinets must have signage on outside of door(s) with red lettering stating "Flammable Keep Fire Away"
 - Two doors are required on all cabinets except 10-20 gallon sizes where one door is sufficient. Where two doors are required, they may either be bi-folding or hinged on side
 - Cabinets must be of approved metal construction and meet minimum construction requirements:
 - Bottom, top, sides, and door(s) of cabinet shall be at least 18 gauge sheet metal and double walled 1 ½ inch air space

- Joints must be riveted, welded, or made liquid tight by an equally effective means
 - Door must be provided with three-point latch arrangement and the doorsill shall be raised at least two inches above the bottom of the cabinet to retain spilled liquid
- 3) Corrosive Storage Cabinets are made of polyethylene to prevent hazardous leakage of corrosive acids and/or bases.

D. Chemical Fume Hood

A fume hood is a local exhaust device whose primary purpose is to protect the operator from hazards of airborne chemical contaminants. The secondary purpose is to protect people and property against small fires and explosions. The fume hood must be used properly to allow it to function correctly and remove contaminants from the breathing area of the user.

Operators of the fume hood should check the area daily for visible blockage of airflow. Large items or numerous containers can impede the flow of air. Airflow monitor devices should be observed before each use to check that the hood is functioning. If the hood does not contain a monitor, place a tissue paper strip at the opening to observe inward directional airflow. Users should keep the interior hood surfaces in a clean condition.

The college Facilities, Maintenance & Operations (FMO) department has a third party check the fume hood airflow annually to confirm that the airflow into the hood is not compromised by cross drafts, the hood has a uniform inward pattern, and the average velocity of air moving into the hood is within an acceptable range. Guidelines and results are noted on the assessment sticker placed on the front of the hood. If results are not acceptable a notice will be placed on the hood sash and repair request sent to the college FMO department.

A solid colored arrow sticker or line marking on the hood and sash indicates maximum sash height at which acceptable airflow performance results were checked. The stickers or markings indicate the proper sash opening for hood use. In the event a hood lacks a hood or sash sticker or the test date is older than one year, notify your direct supervisor. Equipment failures or problems should be reported to your supervisor immediately, and the sash should be lowered all the way down and a notice placed on the hood sash until the fume hood is serviced.

Guidelines for Chemical Fume Hood Use:

- Use chemicals in the hood that may generate contaminants near or above exposure limits
- Do not have sources of ignition inside the hood when flammable liquids or gases are present
- Visually inspect the device (and flow monitor) daily or before each use
- Keep all items 6 inches back from the front edge of the hood to avoid blocking the airflow path
- Keep slot openings at the back of the hood free from blockage with large objects or numerous containers
- Elevate large objects 2 inches off the floor of the hood so air can pass under the object and out the back slots in the hood
- Close the sash when the hood is not in use
- During hood use, lower the sash to the sash arrow sticker, below the chin or more if possible
- Lower and use the sash as a safety shield when working with reactive materials or materials that may splatter
- Do not store chemicals in hoods

E. Electrical Extension Cords

The National Electric Code (NFPA 70) prohibits the use of extension cords as a substitute for permanent wiring. Multiple plug outlet adapters are also prohibited. If additional electrical outlets are needed in a work area, the department can request to have additional outlets installed by college FMO department.

F. Emergency Eyewash and Deluge Shower

Eyewash stations and deluge showers are installed in or near laboratories, chemical preparation areas, or chemical storage areas in case of a chemical emergency. Safety showers and eyewash stations are tested periodically (monthly) for use and effectiveness. Additionally, all laboratory personnel are trained in the proper use of the shower and eyewash stations. Laboratory personnel should also ensure that access routes to showers and eyewash stations are free from obstructions and obstacles. If problems are noted with water flow, contact FMO department immediately.

G. Gas Hose Connectors

Per NFPA 54: National Fuel Gas Code, gas hose connectors (i.e. hoses connecting a gas source to an appliance or equipment), are allowed to be used for laboratory equipment such as Bunsen/Meker-Fisher burners, provided that all of the following conditions are met:

- A shut off valve must be installed where the connector is attached
- The connector shall not exceed 6 feet
- The connector shall not be concealed nor shall it pass from room to room or through walls, ceilings, or floors
- Tubing made of latex shall not be used as a gas source and a burner

H. Machine Guarding and Shielding

All mechanical equipment should be adequately furnished with guards that prevent access to electrical connections or moving parts, e.g., belts and pulleys of a vacuum pump. Each laboratory worker should inspect equipment before using it to ensure that the guards are in place and functional. Careful design of guards is vital. An ineffective guard can be worse than none at all, because it can give a false sense of security. Emergency shutoff devices may be needed in addition to electrical and mechanical guarding. Safety shielding should be used for any operation having the potential for explosion and must be placed so that all personnel in the area are protected from hazard, such as whenever the following occur:

- A reaction is attempted for the first time; small quantities of reactants should be used to minimize hazards
- A familiar reaction is carried out on a larger than usual scale (5-10 times more material)
- An operation is carried out under non-ambient conditions

I. Personal Protective Equipment

PPE is used only if substitution, engineering, and/or administrative controls are not feasible. Employees must be trained on the proper use and care of PPE. Personnel should consult the department SOPs, manufacturer SDS documents, area supervisor or District Risk Management to determine the correct PPE for the chemical or process. Types of PPE include:

1) Eye and Face Protection

- Eye protection is worn any time chemicals are used
- Safety glasses with side shields and goggles: protect the user from chemical splashes and provides impact resistance
- Face shields: protect the user's face and neck from chemicals or particles

2) Skin Protection

- Protective apparel can safeguard the user from hazardous materials absorbing or causing damage to the skin
- Laboratory coats, closed-toed shoes, long-sleeved shirts, full-length trousers, and chemical splash aprons offer great skin protection
- Gloves should be worn whenever it is necessary to handle corrosive material, sharp-edged objects, very hot or very cold materials, or toxic chemicals. The following criteria should be considered when using gloves
 - Gloves should be selected depending on the type of chemical used
 - Gloves should be inspected for discoloration, punctures, and tears

- Information should be obtained from manufacturers to determine safe limits
 - Consult District Risk Management for glove-type usage
- 3) Respiratory Protection
- Air purifying half-face or full-face supplied air respirators (airline or self-contained breathing apparatus (SCBA)) are used when necessary to maintain exposure below the PEL
 - Employees may only use respirators if they have been trained, fit-tested, examined by a physician, and authorized by District Risk Management. Respirators shall be selected and used in accordance with Title 8 CCR § 5144
 - SCBA respirators should be inspected at each use or monthly if not in use (8 CCR § 5144)
 - Refer to the District's *Respiratory Protection Program* for more details
- 4) Hearing Protection
- Earplugs and earmuffs help protect the user from outside noise that can damage hearing

J. Refrigerators

Individuals and/or departments purchasing refrigerators for laboratory use are expected to follow District procedures that are in accordance with requirements of NFPA 45. If flammable solvents need to be refrigerated, an explosion-safe refrigerator must be purchased. Explosion-safe refrigerators are designed to eliminate the ignition of flammable vapors inside the storage compartment. A domestic refrigerator must not be used to store flammables because they contain ignition sources that can set off explosive concentrations of a flammable vapor. Vapors from a leaky stopper or a cracked container can build up to explosive concentrations and be ignited by the light switch or a thermostat. Domestic refrigerators located in labs must be labeled "Do Not Store Flammables in this Refrigerator".

K. Signs and Labels

To ensure safety and reduce exposure in the laboratory, appropriate warnings should be provided to all staff and personnel. Signs and labels should include the following:

- 1) Emergency information & important telephone numbers
- 2) Locations of eyewash areas, shower areas, first aid equipment, fire extinguishers, emergency exits, AED units
- 3) Hazard Warnings should be posted for flammable storage, oxidizer storage, corrosives storage, toxic storage, radioactive, biohazardous waste, extremely hot/cold equipment
- 4) Miscellaneous: SDS symbol meaning, proper lab attire, appropriate lab behavior, eye protection required, no food or beverage consumption, no smoking, no open flame
- 5) Containers:
 - Labels on incoming containers should not be removed
 - Chemical containers should be labeled with, at minimum, the chemical identity or contents, hazard warnings, date the chemical was received or prepared
 - Carcinogens should be clearly labeled
 - Hazardous waste containers should be labeled "Hazardous Waste" with the waste type identified and accumulation date on the container. Refer to the District's *Waste Management Program* for details.

XI. Accidents, Spills, and Emergencies

A spill refers to the release of hazardous material to an undesired location, resulting in increased hazard or potential hazards to people, property, and/or the environment. When a spill occurs or is discovered, appropriate action for the circumstances must be initiated. Laboratory specific spills and accident SOPs may be created within the college and submitted for approval to District Risk Management.

A. Spill Plans and Spill Kits

Each division or department should develop a spill plan. Start by reviewing the chemical inventory list to identify hazards of chemicals used and stored in their building or area. Purchase or assemble spill kit(s) appropriate for the chemicals used and stored in each area. Consider special needs for air and water reactive reagents, bases, corrosives, poisons, and toxic chemicals. Post emergency contact information or call lists at a central location(s) within the building. Post a hazardous materials spill guide at an easily accessible location in the work area. Train lab occupants on area spill procedures and exit routes. Review and update plan as needed.

Spill kit supplies may be purchased from district Procurement approved vendors. It is important to audit the spill kits regularly and replace used or expired items. A basic spill kit should include the following:

- Chemical resistant container(s)
- Dust pan and whisk broom
- Hazardous waste labels
- PPE
 - Goggles, gloves, face shields, shoe covers or boots, disposable apron or coverall
- Universal absorbents
- Specialty items (as needed based on chemical inventory)
 - General neutralizing agents for acids, bases, solvents, and formaldehyde
 - Mercury (Hg) collection sponges
 - Specialized supplies for air or water reactive chemicals and hydrofluoric acid

B. Spill Clean-up Procedures

Cleanup of a chemical spill should only be done by knowledgeable and experienced personnel who have reviewed the SDSs for the spilled chemical(s). A minor chemical spill is one that the lab staff is capable of handling safely without the use of spill suits, protective clothing, and respirators. Also, a minor chemical spill is when the material is contained within a small area of the lab, preparation area, storage rooms or adjacent areas. Total volume of spilled material should be less than five gallons (<5 gal).

1) Standard Procedures for handling a Spill/Release of Chemicals/Hazardous Substances:

- Alert people in immediate area of spill
- Wear PPE, including safety goggles, gloves, and long-sleeved lab coat
- Avoid breathing vapors of spill
- Ventilate the area (i.e. turn on hoods) and shut hood sash if chemical is spilled inside a fume hood
- Contain the spill. If applicable, carefully place physical barriers around the spill to prevent further spreading of the spilled material (e.g. pads, rolls, socks, etc.). Gently apply absorbent materials from the outer edge of the spill and then inward.
- For solids, gently brush particles into a container or dustpan. If spilled material is not water reactive, wet wipe the area
- Use appropriate kit to neutralize and absorb inorganic acids and bases, solvents, etc.
- For other chemicals, use appropriate kit or absorb spill with vermiculite, dry sand, or diatomaceous earth. Collect residue, place in container, and dispose as chemical waste
- If debris may off gas, place the container in a chemical fume hood. Open the lid slightly to avoid pressure buildup or container rupture.
- Fill-in and apply a hazardous waste label to the collections container and request container pickup
- Report spill to direct supervisor

2) Measures for handling Acid/Base Spills:

- PPE involved: goggles, gloves, disposable shoe covers

- Use sodium bicarbonate (NAHCO₃) or acid neutralizer absorbent for acid spills
 - Use citric acid, sodium bisulfate or base neutralizer absorbent for base spills
 - Vermiculite, spill pillows, or other absorbing material can be used to contain the spill
 - Use pH paper to test the solution
- 3) Measures for handling Mercury (Hg) Spills:
- PPE involved: goggles, gloves, and disposable shoe covers
 - For small spills, such as a 75mm Hg thermometer, use an aspirator bulb, suction device or mercury sponge
 - If vapor inhalation is a potential problem, notify your supervisor for assistance
- 4) Measures for handling Acid Chloride Spills:
- Avoid water and sodium bicarbonate
 - Use dry sand, Oil-Dri absorbent, or equivalent product
- 5) Measures for handling Alkali Metal Spills:
- Do not use water
 - Smother in dry sand and place debris in a hood
- 6) Measures for handling Highly Hazardous or Toxic Material Spills:
- Select substances (i.e. hydrofluoric acid or extremely poisonous substances) may necessitate having special clean up supplies or antidotes in the work area. Refer to product SDS for guidance or contact District Risk Management

C. Emergencies, Major Spills/Accidents Procedures

- 1) Any Emergency: Call Campus Police emergency line or 911 immediately

After calling in emergency, notify your direct supervisor. Emergencies may include ambulance, evacuation, explosion, fire, police, rescue, etc.

- 2) Major Spill: Call Campus Police emergency line or 911 immediately

A major spill is one that spreads rapidly, presents inhalation or fire hazards, has entered the environment, or exceeds the capability of the user to respond. Steps to follow in the event of a major spill, after Campus Police or 911 is called:

- Attend to injured or contaminated individuals and remove them from the exposure
- Alert others to leave spill area and close doors to affected area(s)
- Remove ignition sources, shut down equipment, close fume hood sash and open windows, as appropriate
- Assemble at a safe distance and location from exposure
- Provide necessary information and SDS documents to emergency personnel and affected individuals
- Call supervisor (Academic Administrator/Classified Manager) to report an incident
- Complete the *Environmental Release or Spill Incident Reporting Form* (Appendix D)

- 3) Minor Spill/Non-emergency situation:

Notify direct supervisor and follow spill procedures given above.

- 4) Environmental Release and Oil Spill Notifications:

For suspected or known spills to the environment (air, water, lands, drains) during normal business hours, notify District Risk Management at (949) 348-6043 or (949) 348-6065. In addition, employees must follow the college Spill Prevention, Control, and Countermeasure Plan (SPCC) and report spills to the site SPCC Coordinator. These plans are maintained by the college Facilities Departments; copies are available from District Risk Management. For suspected or known spills to the environment that occur after hours, call Campus Police.

Notifications must be made to regulatory agencies immediately and not later than six hours for actual or suspected environmental releases/spills. Employees should complete the Environmental Release or Spill Incident Reporting Form (Appendix D) to assist in reporting the release/spill incident to Cal-OSHA.

5) Evacuation or Rescue:

Call Campus Police emergency line or 911 immediately, then notify your supervisor. Supervisor should notify Office of Risk Management immediately.

6) Explosion and Fire

- *General Response Actions:* Alert other personnel in the lab or work area immediately and notify Campus Police. Quickly determine if means are available to extinguish fire. If none are available, then vacate the area and activate the nearest building fire alarm.
- *Small Fire Actions:* Relatively small fires (no larger than an office waste basket), may be extinguished immediately using the nearest fire extinguisher appropriate for the type of fuel burning. Fire extinguishers should be used only by individuals trained in the extinguisher operation. When using a fire extinguisher, aim the nozzle at base of fire and apply agent on flame using a side-to-side sweeping motion. Always maintain accessible exit and avoid smoke or fumes. Ventilate the area after the fire has been extinguished. Call Campus Police and report incident to your direct supervisor.

The four classes of extinguishers are:

Class A: ordinary combustible solids such as paper, wood, coal, rubber, and textiles

Class B: petroleum hydrocarbons (e.g. diesel fuel, motor oil, and grease)

Class C: electrical equipment

Class D: combustible or reactive metals (e.g. sodium, potassium, metal hydrides, and organometallics)

- *Large Fire Actions:* If a large fire erupts, activate the nearest fire alarm and alert people to evacuate. Close doors to confine fire. Evacuate the building immediately (do not use elevators to exit), then call Campus Police emergency line or 911 from outside of the emergency area. Meet emergency personnel outside with an individual knowledgeable of the incident to relay information. Only the fire department or Campus Police may authorize re-entry to the area.

7) Medical Treatment Needs: For emergency medical needs, report to local emergency room.

If vehicle transport is needed, call 911 or Campus Police to request ambulance.

For non-emergency work-related medical needs, employees may initiate a workers' compensation claim and seek medical attention at a local medical network provider. To initiate a claim, complete a District Workers' Compensation Packet (available on District SharePoint) with your supervisor and submit completed forms to District Risk Management in District Services located at 28000 Marguerite Parkway (HS Building, room 345), Mission Viejo CA 92692 or email forms to riskmanagement@socccd.edu.

8) Personal Injury:

If an injured individual needs immediate medical attention, yell out loud for help and initiate lifesaving measures (CPR/first aid). Call Campus Police emergency line or 911.

If non-emergent injury, notify Campus Police and area supervisor and render assistance to the individual(s) involved. If other non-injured individuals are present, assign someone to call Campus Police for assistance and notify the area supervisor while you render assistance to the injured person(s).

Do not move an injured individual unless there is danger of further harm. Complete an *Employee Report of Work Injury or Student/Visitor Incident Report* after injured individual has been tended to.

When hazardous materials are involved:

- If further exposure is life threatening, then remove the injured from the affected area
- If chemicals are involved, wash the individual under the deluge shower or eyewash
- Flush body and/or eyes with water for at least 15 minutes
- Remove contaminated clothing while under deluge shower
- Do not use neutralizing agents, creams, lotions, or ointments
- Send an individual knowledgeable of the incident for help
- Notify Campus Police and provide exact location, type of injury, and number of individuals injured

9) Power Outages

A power outage may occur during lab operations, so it's important that employees learn about the emergency plans that have been established by the college. Some buildings are equipped with generators to sustain specific lights and outlets during an outage. Consider a plan for lab computers, instruments, refrigerators/freezers and specialized equipment that are power dependent and could be damaged during an outage or momentary power "surge". Consider adding surge protectors to these valuable devices. Departments may also purchase or make an emergency kit with supplies such as flashlights and batteries.

- *General Response Actions:*
 - Remain calm and contact Campus Police from a landline or cellular phone.
 - Place lids on open containers of volatile chemicals
 - Lower the sash on chemical fume hoods
 - Turn off ignition sources (e.g. gas lines)
 - Shut down equipment
 - Secure or isolate reactions that are underway (e.g. boiling liquids or distillations)
- *After a Power Outage:*
 - Throw away any food that has been exposed to temperatures above 40°F (4°C) for 2 hours or more or that has an unusual odor, color, or texture. When in doubt, throw it out.
 - Restock your emergency kit with fresh batteries and other supplies

10) Radioactive Material:

Notify your supervisor and District Risk Management of all radioactive material spills and instances of personal contamination as soon as possible.

D. **Spill Training & Spill Minimization**

1) Spill training Criteria. Spill training should include the following:

- Recognition (sight, smell, alarms, etc)
- Fire aid for chemical injuries that may occur in your area
- Handling emergencies (notification, action)
- Prevention and containment (secondary containment, spill limitation)
- Clean-up (PPE, use of equipment, preventing damages, etc)
- Packing and handling of residue

2) Spill Minimization. Spills can be minimized using the following techniques:

- Store hazardous liquid containers in a secondary pan or tray that is big enough to hold the contents if the primary container breaks or leaks
- Buy liquid chemicals in plastic coated bottles, especially concentrated acids
- Use bottle carriers for protection and containment
- Put pans under experiments
- Use traps on vacuum lines
- Use carts designed to prevent materials from sliding off the cart
- Have sink stoppers and drain covers handy to prevent material from entering drains

XII. Injury and Illness Reporting

If an employee sustains an injury or illness during the performance of their work, the following reporting measures shall occur:

- A.** Employees must immediately report any hazardous exposure incident to their supervisor, including all known or suspected injuries and illnesses. This can be done in-person or by phone call.
- B.** Employees should complete the [Employee's Report of Work Injury/Illness \(FS#38\)](#) form and submit to their supervisor within 24 hours from time of incident. The completed form will be forwarded to District Risk Management immediately.
- C.** Supervisors shall investigate all work-related illnesses and injuries and shall use the [Supervisor's Accident Investigation Report \(FS#39\)](#) form to report and document such incidents. The completed form will be submitted to District Risk Management within 24 hours from time of incident or knowledge thereof.
- D.** Supervisors shall immediately notify District Risk Management regarding any work-related accident/incident that results in injury/illness to an employee. This can be done in-person at District Services (HS-345/HS-346), by phone call to Risk Manager at (949)348-6043 or Workers' Compensation and Safety Manager at (949)348-6065, or by email to riskmanagement@socccd.edu

APPENDIX A: LABORATORY SAFETY CHECKLIST

This checklist is available as a form-fillable pdf on District SharePoint, under Business Services, [Risk Management, Information, Programs](#), Chemical Hygiene Program folder.



**Office of Risk Management
LABORATORY SAFETY CHECKLIST**

INSPECTOR INFORMATION

Inspector Name: _____ Dept.: _____
 Position Title: _____ Email/Phone: _____

ROOMS SURVEYED & MAIN CONTACT

List of Rooms in survey: _____
 Date of Survey: _____ Time: _____
 Lab Contact: _____ Dept.: _____
 Position Title: _____ Email/Phone: _____
 Name & Title of Area Supervisor: _____

INSTRUCTIONS

Review the following lists and note any hazard found in the room(s) surveyed. Give details or add comments in space provided. If any major hazard or dangerous condition is identified during the inspection, you must notify the area supervisor immediately. Otherwise, submit the completed checklist to area supervisor within 48 hours of inspection.

LIST OF POSSIBLE HAZARDS	Y	N	N/A	COMMENTS
1) BSL-2 (or +) activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
2) Field work using hazardous chemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
3) Open flames	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
4) Overnight reactions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
5) Ship hazardous materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
6) Use of aggressive glassware cleaning baths (acid or base)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
7) Use of aqua regia or pranha solution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
8) Use of oven at 450°C or above	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
9) Use of Schlenk lines (vacuum gas manifold)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
10) Use of Solvent stills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
11) Use of Compressed gases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
12) Use of Prop 65 chemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
13) Use of carcinogens, teratogens, mutagens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
14) Use of Hot oil bath	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

ADMINISTRATIVE PLANS & PROCEDURES

	Y	N	N/A	COMMENTS
15) Emergency procedures posted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
16) Chemical Hygiene Plan, Waste Management & other lab-related safety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

- programs accessible to all lab personnel
- 17) Lab Personnel are knowledgeable on how and when to report accidents, incidents, or near-misses to supervisor and District
- 18) Lab-specific information included in area Lab Safety Manual and/or SOPs
- 19) Lab Safety Manual and/or SOPs accessible to all lab personnel
- 20) Safety Data Sheets (SDS) accessible to all lab personnel
- 21) Was a safety self-audit performed within the last 12 months?

BIOLOGICAL SAFETY	Y	N	N/A	COMMENTS
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- 22) Lab works with biohazards involving recombinant DNA, human or non-human primate material, or pathogenic agents, have a Biological Use Authorization
- 23) If conducting BSL1/ABSL1 practices or higher - sink available for hand washing
- 24) Biohazardous blades, needles, and other sharps promptly disposed of in a designated sharps container
- 25) Biohazardous waste is autoclaved in a timely manner

CHEMICAL STORAGE/PROCESS	Y	N	N/A	COMMENTS
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- 26) Hazardous material quantities are within limits allowed by Fire Code
- 27) Flammable liquids that are stored in a refrigerator are stored in an approved flammable (or explosive) liquids fridge
- 28) Flammable liquids that are stored outside of flammable storage cabinets are limited to 10 gallons in quantity and are stored in approved safety containers
- 29) All chemical containers in good condition (not corroded, cracked or leaking)
- 30) All chemical containers closed properly
- 31) Incompatible chemicals segregated when being stored
- 32) Hazardous materials storage cabinets properly labeled and in good condition
- 33) Chemicals stored on the floor in DOT approved carboys, metal containers or glass containers provided with secondary containment
- 34) All secondary containment is properly labeled and in good condition
- 35) Chemical containers being stored away from sinks
- 36) Corrosive chemicals are stored below eye level

- 37) Chemical containers stored safely on shelves with lips or in a closed cabinet to prevent them from falling in an earthquake _____
- 38) Opened peroxide forming compounds are labeled with the date they were opened and an expiration date _____
- 39) Lab is free of chemicals that are expired, old or no longer needed _____

COMPRESSED GASES/CRYOGENS	Y	N	N/A	COMMENTS
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- 40) All highly toxic gas cylinders are stored in a gas cabinet, ventilated enclosure, or fume hood _____
- 41) Incompatible compressed gas cylinders are segregated _____
- 42) Gas cylinder valve protection caps in place for all cylinders not in active use _____
- 43) Compressed gas cylinders secured to prevent from falling or tipping _____

ELECTRICAL SAFETY	Y	N	N/A	COMMENTS
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- 44) Building electrical panels accessible _____
- 45) Extension cords or power strips are not daisy-chained to each other _____
- 46) Lab has no exposed wiring or electrical cords in poor condition _____
- 47) Ground fault circuit interrupters (GFCIs – either fixed GFCI receptacles/breakers or using adaptors) employed in wet locations _____
- 48) Extension cords used as temporary wiring and do not run under carpets, doors or through walls/ceilings _____
- 49) Equipment with motors, heaters and other amperage are plugged directly into a wall receptacle _____

EMERGENCY EYEWASH/DELUGE SHOWER	Y	N	N/A	COMMENTS
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- 50) Eyewashes & showers accessible within 10 seconds travel _____
- 51) Eyewashes & showers free of obstructions _____
- 52) Eyewashes routinely flushed & record kept _____

EMERGENCY KITS	Y	N	N/A	COMMENTS
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- 53) Lab has access to chemical and/or biological spill kits _____
- 54) Lab staff have access to a fully stocked first-aid kit & training on first aid _____

EXIT ACCESS/CORRIDORS	Y	N	N/A	COMMENTS
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- 55) Aisles and exits within the lab space are free of clutter and obstructions _____
- 56) Corridors and exits free of obstruction and hazardous materials _____

FIRE SAFETY	Y	N	N/A	COMMENTS
57) 18 inches clearance between stored items and ceiling and fire sprinklers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
58) Suspended or dropped ceiling have all ceiling tiles in place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
59) Lab doors kept closed when unoccupied	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
60) Fire extinguishers available, easily accessible, and free of obstructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
61) Fire extinguishers checked regularly and at least annually	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

FOOD/BEVERAGE	Y	N	N/A	COMMENTS
62) Food and drink are prohibited in lab areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

HAZARD COMMUNICATION	Y	N	N/A	COMMENTS
63) Chemical inventory for lab has been reviewed and updated within last year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
64) Lab's contact information is current on college website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
65) Lab staff can readily access SDS either from hard copies or digitally	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
66) All containers clearly labeled with contents and primary hazard(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

HOUSEKEEPING	Y	N	N/A	COMMENTS
67) Lab is free of slip and trip hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
68) Lab is adequately organized, orderly and clean to provide sufficient work space for operations without spills, accidents and other preventable incidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
69) Minimal glassware stored in the sink or on bench tops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
70) Lab coats are regularly laundered	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

MACHINERY	Y	N	N/A	COMMENTS
71) All hazardous pieces of machinery are mounted or secured to prevent movement or tipping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
72) All points of operation, rotating components, and other moving parts of machinery are properly guarded to prevent injury	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
73) Lab equipment with potential hazards are routinely inspected and maintained or services as recommended by manufacturer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

PERSONAL PROTECTIVE EQUIPMENT	Y	N	N/A	COMMENTS
74) PPE hazard assessment completed for all lab personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
75) PPE safety training completed by all applicable lab personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

- 76) Applicable PPE assigned to all personnel _____
- 77) If respirators are being used, personnel have passed fit test on assigned PPE _____
- 78) If respirators are being used, personnel have completed Respiratory Protection training within the last year. _____
- 79) If respirators are being used, personnel have completed pulmonary medical clearance within last 3 years _____

SIGNAGE	Y	N	N/A	COMMENTS
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- 80) Emergency contact numbers for lab staff, including after-hours contacts are posted _____
- 81) "In Case of Injury/Illness" info. posted _____
- 82) Lab hazard caution sign posted & current _____
- 83) Biosafety door sign posted when agents are in use and removed when not in use _____
- 84) Additional hazard warning signs (laser, magnetic fields, high voltage, etc) posted in lab near the hazard _____
- 85) Lab floor plan posted _____
- 86) Exit signs posted _____
- 87) "No food/drink" signs posted _____
- 88) "Not an Exit" posted on lab doors that are not official Exit doors. _____

TRAINING	Y	N	N/A	COMMENTS
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- 89) Safety training assessment has been completed for lab personnel _____
- 90) Safety training completed and documented for all lab staff, including chemical/biological spills overview _____
- 91) Lab specific training completed and documented _____

VENTILATION	Y	N	N/A	COMMENTS
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- 92) Processes that emit vapors, gases, or fumes are adequately captured by local ventilation (hood, snorkel, etc.) _____
- 93) Fume hoods kept uncluttered and rear ventilation slots are not blocked/covered _____
- 94) Fume hoods properly labeled "Out of Service" when in need of repair _____
- 95) Fume hood certification completed within last year and posted on each hood _____

WASTE & DISPOSAL	Y	N	N/A	COMMENTS
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- 96) Waste containers in good condition and compatible with their contents _____

- 97) Waste containers are kept closed when not in use _____
- 98) Incompatible chemical wastes are segregated by hazard class _____
- 99) All waste containers are labeled with accumulation start date, contents, source department, hazard(s), _____
- 100) All waste containers have accumulation start dates that are less than 90 days old _____
- 101) Lab glass placed in sturdy cardboard boxes that are labeled properly for disposal _____
- 102) Sharps waste containers properly labeled _____
- 103) Biological waste containers properly labeled _____

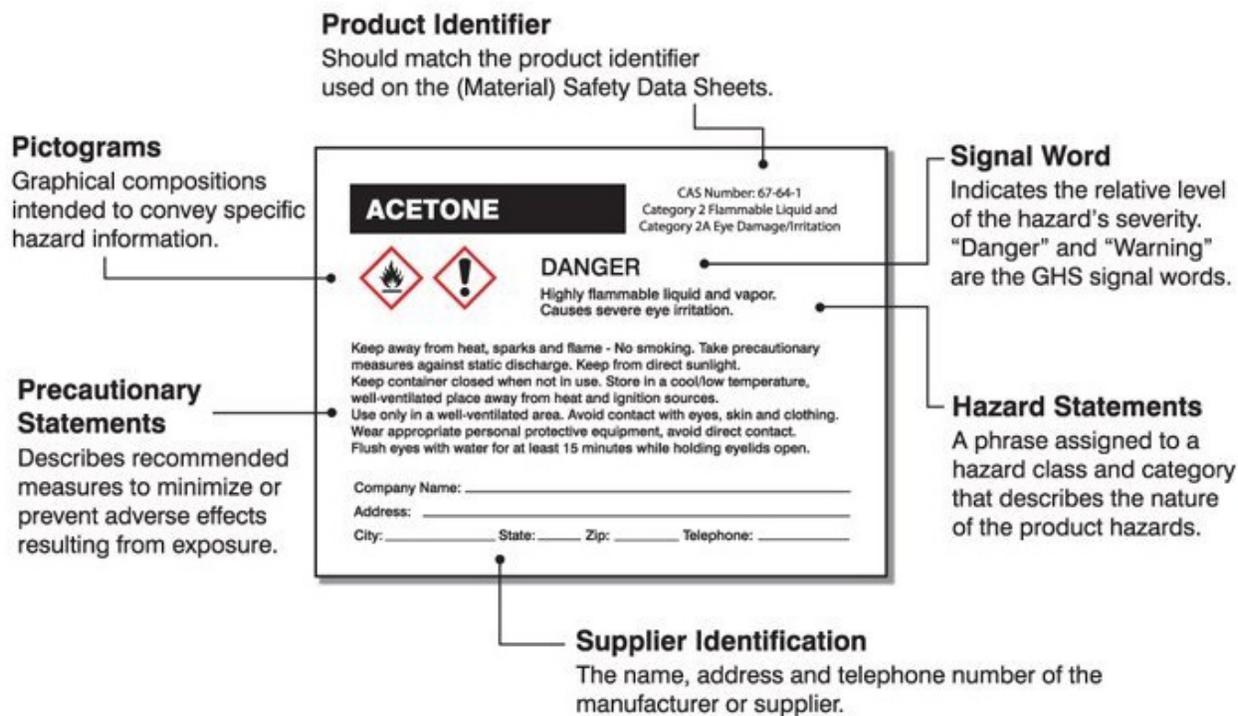
INSPECTION FOLLOW-UP INFORMATION

Date submitted to supervisor:	
Corrective Action Plan (if applicable):	
Date & details of items corrected:	

APPENDIX B: SAMPLE CONTAINER LABEL

The illustration below identifies the components of a GHS label as described in Section VII of this plan. The GHS hazard pictograms, signal word and hazard statements should be located together on the label. Actual label design and layout may vary and are subject to the discretion of the competent authority.

GHS Label:



GHS Pictograms:

	Explosion bomb (for explosion or reactivity hazards)		Flame (for fire hazards)		Flame over circle (for oxidizing hazards)
	Gas cylinder (for gases under pressure)		Corrosion (for corrosive damage to metals, as well as skin, eyes)		Skull and Crossbones (can cause death or toxicity with short exposure to small amounts)
	Health hazard (may cause or suspected of causing serious health effects)		Exclamation mark (may cause less serious health effects or damage the ozone layer*)		Environment* (may cause damage to the aquatic environment)

Note: For more information, please consult District Risk Management at riskmanagement@socccd.edu

APPENDIX C: Federal OSHA List of Highly Hazardous Chemicals, Toxics and Reactives

The table below contains a listing of toxic and reactive highly hazardous chemicals which present a potential for a catastrophic event at or above the threshold quantity. Refer to OSHA website for the most current version of this list, available at

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9761

CHEMICAL NAME	CAS*	TQ**
Acetaldehyde	75-07-0	2500
Acrolein (2-Popenal)	107-02-8	150
Acrylyl Chlorde	814-68-6	250
Allyl Chlorid	107-05-1	1000
Allylamine	107-11-9	1000
Alkylaluminum	Varies	5000
Ammonia, Anhydrous	7664-41-7	10000
Ammonia solutions (greater than 44% ammonia by weight)	7664-41-7	15000
Ammonium Perchlorate	7790-98-9	7500
Ammonium Permanganate	7787-36-2	7500
Arsine (also called Arsenic Hydride)	7784-42-1	100
Bis(Chloromethyl) Ether	542-88-1	100
Boron Trichloride	10294-34-5	2500
Boron Trifluoride	7637-07-2	250
Bromine	7726-95-6	1500
Bromine Chloride	13863-41-7	1500
Bromine Pentafluoride	7789-30-2	2500
Bromine Trifluoride	7787-71-5	15000
3-Bromopropyne (also called Propargyl Bromide)	106-96-7	100
Butyl Hydroperoxide (Tertiary)	75-91-2	5000
Butyl Perbenzoate (Tertiary)	614-45-9	7500
Carbonyl Chloride (see Phosgene)	75-44-5	100
Carbonyl Fluoride	353-50-4	2500
Cellulose Nitrate (concentration greater than 12.6% nitrogen)	9004-70-0	2500
Chlorine	7782-50-5	1500
Chlorine Dioxide	10049-04-4	1000
Chlorine Pentafluoride	13637-63-3	1000
Chlorine Trifluoride	7790-91-2	1000
Chlorodiethylaluminum (also called Diethylaluminum Chloride)	96-10-6	5000
1-Chloro-2,4-Dinitrobenzene	97-00-7	5000
Chloromethyl Methyl Ether	107-30-2	500
Chloropicrin	76-06-2	500
Chloropicrin and Methyl Bromide mixture	None	1500
Chloropicrin and Methyl Chloride mixture	None	1500
Cumene Hydroperoxide	80-15-9	5000
Cyanogen	460-19-5	2500
Cyanogen Chloride	506-77-4	500
Cyanuric Fluoride	675-14-9	100
Diacetyl Peroxide (concentration greater than 70%)	110-22-5	5000
Diazomethane	334-88-3	500
Dibenzoyl Peroxide	94-36-0	7500
Diborane	19287-45-7	100

CHEMICAL NAME	CAS*	TQ**
Dibutyl Peroxide (Tertiary)	110-05-4	5000
Dichloro Acetylene	7572-29-4	250
Dichlorosilane	4109-96-0	2500
Diethylzinc	557-20-0	10000
Diisopropyl Peroxydicarbonate	105-64-6	7500
Dilauroyl Peroxide	105-74-8	7500
Dimethyldichlorosilane	75-78-5	1000
Dimethylhydrazine, 1,1-	57-14-7	1000
Dimethylamine, Anhydrous	124-40-3	2500
2,4-Dinitroaniline	97-02-9	5000
Ethyl Methyl Ketone Peroxide (also Methyl Ethyl Ketone Peroxide; concentration greater than 60%)	1338-23-4	5000
Ethyl Nitrite	109-95-5	5000
Ethylamine	75-04-7	7500
Ethylene Fluorohydrin	371-62-0	100
Ethylene Oxide	75-21-8	5000
Ethyleneimine	151-56-4	1000
Fluorine	7782-41-4	1000
Formaldehyde (Formalin)	50-00-0	1000
Furan	110-00-9	500
Hexafluoroacetone	684-16-2	5000
Hydrochloric Acid, Anhydrous	7647-01-0	5000
Hydrofluoric Acid, Anhydrous	7664-39-3	1000
Hydrogen Bromide	10035-10-6	5000
Hydrogen Chloride	7647-01-0	5000
Hydrogen Cyanide, Anhydrous	74-90-8	1000
Hydrogen Fluoride	7664-39-3	1000
Hydrogen Peroxide (52% by weight or greater)	7722-84-1	7500
Hydrogen Selenide	7783-07-5	150
Hydrogen Sulfide	7783-06-4	1500
Hydroxylamine	7803-49-8	2500
Iron, Pentacarbonyl	13463-40-6	250
Isopropylamine	75-31-0	5000
Ketene	463-51-4	100
Methacrylaldehyde	78-85-3	1000
Methacryloyl Chloride	920-46-7	150
Methacryloyloxyethyl Isocyanate	30674-80-7	100
Methyl Acrylonitrile	126-98-7	250
Methylamine, Anhydrous	74-89-5	1000
Methyl Bromide	74-83-9	2500
Methyl Chloride	74-87-3	15000
Methyl Chloroformate	79-22-1	500
Methyl Ethyl Ketone Peroxide (concentration greater than 60%)	1338-23-4	5000
Methyl Fluoroacetate	453-18-9	100
Methyl Fluorosulfate	421-20-5	100
Methyl Hydrazine	60-34-4	100
Methyl Iodide	74-88-4	7500
Methyl Isocyanate	624-83-9	250
Methyl Mercaptan	74-93-1	5000
Methyl Vinyl Ketone	79-84-4	100
Methyltrichlorosilane	75-79-6	500
Nickel Carbonly (Nickel Tetracarbonyl)	13463-39-3	150
Nitric Acid (94.5% by weight or greater)	7697-37-2	500
Nitric Oxide	10102-43-9	250
Nitroaniline (para Nitroaniline	100-01-6	5000

CHEMICAL NAME	CAS*	TQ**
Nitromethane	75-52-5	2500
Nitrogen Dioxide	10102-44-0	250
Nitrogen Oxides (NO; NO(2); N2O4; N2O3)	10102-44-0	250
Nitrogen Tetroxide (also called Nitrogen Peroxide)	10544-72-6	250
Nitrogen Trifluoride	7783-54-2	5000
Nitrogen Trioxide	10544-73-7	250
Oleum (65% to 80% by weight; also called Fuming Sulfuric Acid)	8014-95-7	1000
Osmium Tetroxide	20816-12-0	100
Oxygen Difluoride (Fluorine Monoxide)	7783-41-7	100
Ozone	10028-15-6	100
Pentaborane	19624-22-7	100
Peracetic Acid (concentration greater 60% Acetic Acid; also called Peroxyacetic Acid)	79-21-0	1000
Perchloric Acid (concentration greater than 60% by weight)	7601-90-3	5000
Perchloromethyl Mercaptan	594-42-3	150
Perchloryl Fluoride	7616-94-6	5000
Peroxyacetic Acid (concentration greater than 60% Acetic Acid; also called Peracetic Acid)	79-21-0	1000
Phosgene (also called Carbonyl Chloride)	75-44-5	100
Phosphine (Hydrogen Phosphide)	7803-51-2	100
Phosphorus Oxychloride (also called Phosphoryl Chloride)	10025-87-3	1000
Phosphorus Trichloride	7719-12-2	1000
Phosphoryl Chloride (also called Phosphorus Oxychloride)	10025-87-3	1000
Propargyl Bromide	106-96-7	100
Propyl Nitrate	627-3-4	2500
Sarin	107-44-8	100
Selenium Hexafluoride	7783-79-1	1000
Stibine (Antimony Hydride)	7803-52-3	500
Sulfur Dioxide (liquid)	7446-09-5	1000
Sulfur Pentafluoride	5714-22-7	250
Sulfur Tetrafluoride	7783-60-0	250
Sulfur Trioxide (also called Sulfuric Anhydride)	7446-11-9	1000
Sulfuric Anhydride (also called Sulfur Trioxide)	7446-11-9	1000
Tellurium Hexafluoride	7783-80-4	250
Tetrafluoroethylene	116-14-3	5000
Tetrafluorohydrazine	10036-47-2	5000
Tetramethyl Lead	75-74-1	1000
Thionyl Chloride	7719-09-7	250
Trichloro (chloromethyl) Silane	1558-25-4	100
Trichloro (dichlorophenyl) Silane	27137-85-5	2500
Trichlorosilane	10025-78-2	5000
Trifluorochloroethylene	79-38-9	10000
Trimethoxysilane	2487-90-3	1500

Footnote* Chemical Abstract Service Number

Footnote** Threshold Quantity in Pounds (Amount necessary to be covered by this standard.)

APPENDIX D: ENVIRONMENTAL RELEASE OR SPILL INCIDENT REPORTING FORM

This form below is available as a form-fillable pdf on District SharePoint, under Business Services, [Risk Management, Information, Programs](#), Chemical Hygiene Program folder.



Office of Risk Management
ENVIRONMENTAL RELEASE OR SPILL INCIDENT REPORTING FORM

INSTRUCTIONS FOR USE

Detailed instructions for reporting an environmental release or spill incident are outlined in the district’s Chemical Hygiene Plan. Reporting individuals must submit this completed form to their supervisor as quickly as possible and no later than 2 hours from time of environmental release or spill incident.

Supervisors will review this incident report form and ensure any exposures or hazards are addressed ASAP and any injured employee is provided a Workers’ Compensation Packet. Supervisors will forward completed forms immediately to District Risk Management at riskmanagement@socccd.edu.

Upon receipt of this information, District Risk Management will report this incident to the district’s Cal-OSHA Enforcement district office in Region 3 - Santa Ana District Office.

REPORTING INDIVIDUAL’S INFORMATION

Name: _____ Job Title: _____
Dept./Division: _____
Email/Phone: _____

DETAILS OF RELEASE/SPILL

Date & Time of Incident: _____

Responsible Div./Dept.: _____

Specific Location
(Address, bldg., room): _____

Name of
Chemical(s)/Substance(s)
Released/Spilled &
Estimated Total Quantity
Released/Spilled: _____

Cause and Source of Release/Spill: _____

Description of incident and whether the
scene has been altered in any way: _____

Evacuation Necessary (Please explain): _____

ANY INJURIES SUSTAINED DUE TO RELEASE/SPILL

Name of Injured Employee #1:

Home Address of Injured Employee #1:

Nature of Injuries:

Location where injured employee was/were taken for medical treatment:

List and identify any law enforcement agencies present at the incident site:

Name of Injured Employee #2:

Home Address of Injured Employee #2:

Nature of Injuries:

Location where injured employee was/were taken for medical treatment:

List and identify any law enforcement agencies present at the incident site:

REPORTING INDIVIDUAL'S SIGNATURE

By signing below, I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Signature – Reporting Individual/Employee

Date

THIS SECTION TO BE COMPLETED BY EMPLOYEE'S DIRECT SUPERVISOR

Print Name – Supervisor (Administrator/Manager)

Contact phone number

Signature - Supervisor

Date