



Chemical Hygiene Plan

RIM of the World Unified School District

27315 North Bay Road

Blue Jay, CA 92352

(909) 336-4100

Safety and Risk Management Department

RIM of the World Unified School District

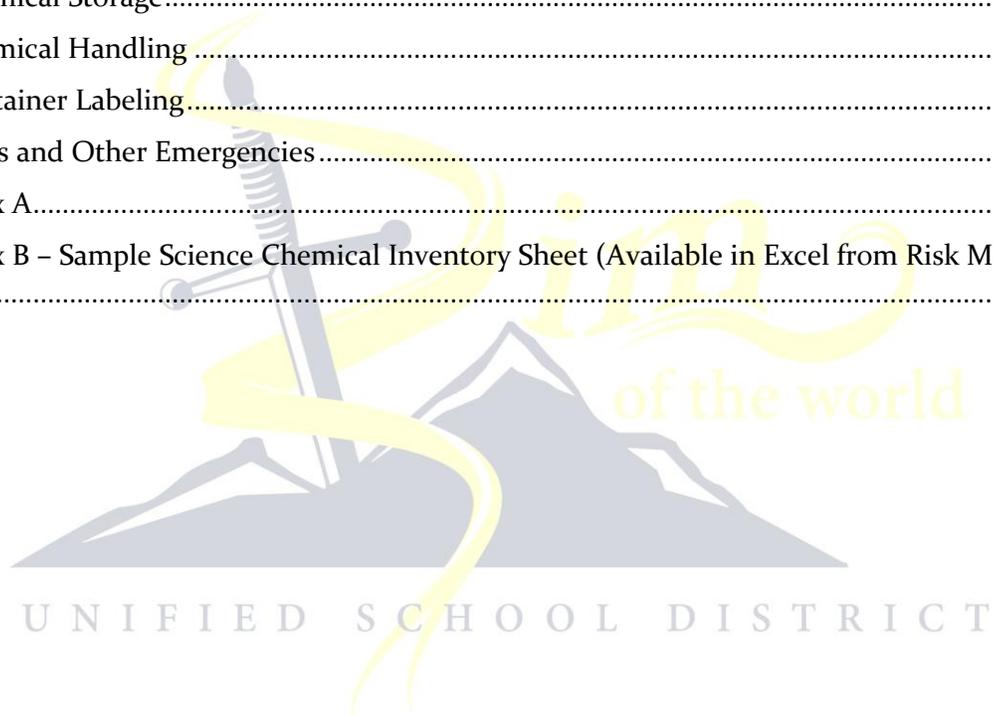
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(909) 336-4121

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Introduction

The occupational exposure to hazardous chemicals in laboratories has been recognized under Occupational Safety and Health Administration (OSHA) regulations as requiring specific rules to ensure their operation in a safe manner.

The CHP outlines the standard work practices, equipment, personal protective equipment, and rules which are capable of protecting employees from the health and physical hazards presented by hazardous chemicals used in a particular workplace.

The site Principal or his/her designee has overall responsibility for the implementation of this program, with support from the Coordinator of Risk Management. The CHP is available for review by all employees and copies are to be located in the offices of the Science Department, Site Administrator and Risk Management.

Purpose and Scope

Authority: California Code of Regulations, Title 8, Section 5191

Scope: This plan applies to all employers engaged in the laboratory use of hazardous chemicals as defined within.

Standard Work Practices

2.1 Personal Work Practices

- 2.1.1 The Site Administrator, in conjunction with Science Staff, shall be responsible to ensure that all classroom personnel understand and follow all the rules and procedures established by this plan.
- 2.1.2 All employees shall remain vigilant to unsafe work practices and conditions in the laboratories, storage areas, etc., and immediately report such practices to the Science Department Staff in writing. The Site Administrator, in conjunction with the Science Department staff, is responsible for reviewing such reports and initiating procedures to correct any unsafe practices or conditions.

- 2.1.3 At least annually, the science staff shall perform and document a safety inspection of the laboratory and chemical storage areas. In addition, science staff shall list their complete inventory of chemicals on the Hazardous Substance Inventory Report (see Appendix B) to ensure that the information is available in case of an emergency. These reports, and a copy of this plan shall be kept in a three-ring binder for ready access.
- 2.1.4 Never alter or change in any way machines, equipment, engineering controls or personal protective equipment installed or purchased.
- 2.1.5 Report all injuries and illness suffered while handling or using hazardous chemicals to the Site Administrator and Science Department Chair immediately. Each site and the affected staff member shall fill out the employee and/or student injury report forms relating to the incident and provide copies to the Risk Manager.
- 2.1.6 Always inspect personal protective equipment (PPE) prior to use and after wear to ensure that it is in proper working condition. Inform the Science Department Staff of the need for additional or extra PPE as soon as possible. Never use or handle chemicals without the proper PPE for the job.
- 2.1.7 Chemicals should only be used in areas with ventilation appropriate for the chemical compound or product being used.
- 2.1.8 Do not smell or taste any chemicals. Avoid unnecessary exposure to all chemicals by any route.

2.2 Employee Training and Medical Information

- 2.2.1 All employees should be informed as to the hazards of the chemicals and other products used in the laboratory setting through employee training. The training may include audiovisual programs, written materials, verbal presentations and other forms of training.
- 2.2.2 The training shall include the contents and location of all OSHA applicable laboratory standards, the methods for using, handling and storing chemicals, the physical and health hazards of chemicals used in the lab, material safety data sheets, and the measures employees can take to protect themselves from these hazards, including emergencies.

2.3 Personal Protective Equipment

- 2.3.1 The site Administrator, in conjunction with the applicable Science Department, is responsible for ensuring that the proper types of personal protective equipment (PPE) are available for students and staff and for ensuring their proper maintenance and use.
- 2.3.2 Safety glasses or goggles meeting ANSI Z87.1 standards are required to be worn by classroom staff, students and visitors when working in the lab area where chemicals are being used.
- 2.3.3 Appropriate chemical-resistant gloves should be worn when required per the MSDS or as a result of staff recommendations. Gloves should be periodically inspected by the user and damaged or deteriorated gloves immediately reported to the Science Department staff for replacement.
- 2.3.4 Thermal-resistant gloves shall be worn for operations involving the handling of heated materials and exothermic reaction vessels.

- 2.3.5 Thermal-resistant gloves shall be non-asbestos and shall be replaced when damaged or deteriorated. Respirators, when worn, ensure that harmful exposure to mist, dust, fumes, vapors and gases does not occur. Respirators used must be of proper fit and type and employees must be properly trained in their use.
- 2.3.6 Appropriate footwear must be worn in the laboratory and storage areas where chemicals may accidentally be spilled and may drip on the foot area.
- 2.3.7 When laboratory aprons are provided they must be worn when handling or storing chemicals.
- 2.3.8 Air sampling, if necessary, shall be conducted under the direction of the Risk Manager. Records of such sampling activities shall be made available to all affected employees.

2.4 Laboratory Equipment and Glassware

- 2.4.1 All laboratory equipment shall be used only for its intended purpose. No modification of equipment or engineering controls shall occur, unless testing indicates that worker protection will continue to meet the regulations.
- 2.4.2 All laboratory equipment shall be inspected at least annually to determine if its use is necessary and if replacement or repair is required. The annual inventory of laboratory equipment (see form in Appendix B) shall be maintained and shall contain information as to the status of the equipment (i.e., good condition, repair, or replace).
- 2.4.3 Improper function of any equipment or engineering controls must be immediately reported to Science Department staff and the equipment or system taken out of service by the instructor until proper repairs have been executed.

- 2.4.4 The laboratory hood shall be used for all chemical procedures which might result in the release of hazardous chemical vapors or dust. The laboratory hood shall not be used as a means of disposal for volatile chemicals.
- 2.4.5 To minimize the interference with the inward flow of air into the hood, the storage of chemicals and equipment inside of the hood shall be kept to a minimum.
- 2.4.6 All laboratory glassware shall be handled and stored with care to minimize breakage. All broken glassware will be immediately disposed of in the proper receptacle. All evacuated glass apparatus shall be shielded to contain chemicals and glass fragments should implosion occur.
- 2.4.7 Appropriate hazardous waste containers shall be provided and properly labeled. The site Administrator or designee shall arrange for removal and disposal of hazardous waste as identified by the sites.
- 2.4.8 Overhead lighting fixtures in chemical storage areas should be reviewed annually by Science Department staff to ensure that they are properly secured to prevent their falling in case of an earthquake.

2.5 **Housekeeping**

- 2.5.1 Each employee is responsible for the cleanliness of his or her work area, and jointly responsible for common areas used by all. The Science Department Staff shall *insist* on the maintenance of housekeeping standards and shall periodically inspect these areas.
- 2.5.2 Laboratory benches and work areas shall be kept clear of equipment and chemicals except those necessary for the work currently being performed.
- 2.5.3 The laboratory and storage areas shall be inspected at the end of each work day by instructional staff to ensure that chemicals and equipment have been properly put away. A review of chemicals and equipment stored shall be

conducted on a monthly basis by instructional staff to ensure that no spills or leaks have occurred and that equipment is stored in a safe manner.

- 2.5.4 All floors, aisles, exits, fire extinguishing equipment, electrical panels, eyewash and shower stations, electrical and gas disconnects and other emergency equipment shall remain unobstructed.
- 2.5.5 Boxes, equipment and other items shall only be stored on top shelves when they are properly restrained from tipping, falling or rolling off such shelves.
- 2.5.6 Science staff will ensure that waste and outdated chemicals are properly contained, labeled and quantified prior to removal.

2.6 Chemical Procurement

- 2.6.1 The procurement of a chemical shall be a commitment to use, handle and dispose of the chemical in a safe manner.
- 2.6.2 Requests for all chemical procurement shall be submitted to the Science Department staff in writing for approval. After the request has been accepted, information on the new chemicals' use, storage and handling shall be made available to all department personnel before its initial use.
- 2.6.3 All chemicals received shall be marked with the date received to ensure that shelf life (if applicable) is not exceeded. In addition, the chemicals received shall be checked for proper labeling and receipt of the safety data sheet (SDS). If chemicals are received with improper labels or without SDS sheets, they shall not be used until such items are obtained (See sample SDS, Appendix A).

2.7 *Chemical Storage*

- 2.7.1 The chemical storage area shall be accessible to authorized personnel only and shall be so labeled.
- 2.7.2 Chemicals received shall be immediately placed in the proper storage areas, segregated by hazard class and not left in shipping boxes or crates.
- 2.7.3 Acid-resistant shelving or trays shall be placed under bottles containing mineral acids. Mineral acids should be separated from flammable and combustible materials by as much space as possible. Acid-sensitive materials such as sulfides shall be separated from acids and protected from contact with acids.
- 2.7.4 Acutely Hazardous (Also called extremely hazardous) chemicals shall be clearly identified and records kept of the usage.
- 2.7.5 Stored chemicals shall be visually inspected at least every month by instructional staff to determine if they are causing corrosion, deteriorating their container or storage shelf, leaking, or if other damage has occurred to the storage area.
- 2.7.6 At least once a year, the chemical storage areas as well as the chemicals stored elsewhere, shall be inventoried by Science Department personnel. The inventory shall address the types and quantities of chemicals stored, their condition, and the need for disposal of any chemicals no longer in use, leaking, or otherwise in poor condition.

2.8 Chemical Handling

To decrease the hazards inherently present in laboratories and chemical storage areas, the Site Administrator, in conjunction with the Science Program Specialist shall provide science staff at their sites with instructions (specific training designed to implement safe work habits and student procedures. In addition to general guidelines laid out in the Science Safety Handbook, all employees in handling and using chemicals shall follow the list of precautions outlined below.

2.8.1 Skin contact with chemicals shall be avoided. All employees shall wash all areas of exposed skin prior to leaving laboratory or chemical storage areas.

2.8.2 Mouth suction for pipetting or starting a siphon is *prohibited*.

2.8.3 Eating, drinking, smoking, gum chewing or the application of cosmetics in areas where chemicals are present shall be avoided. Employees shall wash their hands thoroughly prior to doing any of the items listed above. In addition, storage, handling and consumption of food or beverages shall not occur in chemical storage areas, refrigerators, in glassware or on utensils also used for laboratory operations.

2.8.4 Chemicals used at the lab station shall be in only those quantities necessary for the lesson. After the lab lesson has been completed, all chemicals left shall be promptly returned to the chemical storage area or removed as waste, if necessary.

2.8.5 Any chemical mixture shall be assumed to be as toxic as its most toxic component. Substances of unknown toxicity shall be assumed to be toxic.

2.8.6 Employees shall be familiar with the symptoms of exposure for the chemicals with which they work and the precautions necessary to prevent them. This information is provided by the SDS and other nationally recognized standards of working in a laboratory.

2.8.7 Engineering controls and safety equipment in the laboratories shall be utilized and given periodic inspections as required. Ventilation Systems shall be tested under the direction of the Maintenance Department , at least annually or when system problems arise.

2.9 Container Labeling

2.9.1 All containers shall be labeled, unless they are being used for educational testing purposes at that time. This includes chemical and waste containers. The label, at a minimum, shall identify the container contents, and the associated hazard. Pursuant to the Globally Harmonized System of labeling chemicals in the workplace, the labels for chemicals used in the science labs shall be appropriate.

2.9.2 Any container not having a proper label shall be immediately labeled to prevent accidental use by others and to ensure proper identification.

2.10 Spills and Other Emergencies

2.10.1 Emergency phone numbers shall be posted and include the local police and fire departments and District emergency personnel.

2.10.2 Classroom staff shall know the location and proper operation of fire extinguishers in their area. The monthly inspection log on each unit shall be initialed to verify visual checks. The Principal shall be notified of any extinguishers that are not in proper working order. The Maintenance Department will then be contacted with a request in School Dude to provide an immediate replacement.

2.10.3 All employees who might be exposed to chemical splashes shall be instructed in the location and proper use of emergency eyewash and shower stations. At least monthly, staff members shall inspect the eyewash and shower stations to ensure they are in proper working condition and document such inspections.

- 2.10.4 Signs depicting the location of emergency equipment (such as fire extinguishers and eye washing and shower stations) shall be posted directly above their location in accordance with the regulations.
- 2.10.5 In the event of a spill, release or other mishap, immediately report the event to the Principal, who shall take the necessary emergency actions--evacuation and/or isolation of the area--and then contact Risk Management for further action.
- 2.10.6 If outside assistance is required, the principal will be advised by Maintenance and instructed on the total response plan/ any operating restrictions which may be necessary and the estimated duration of the response effort. A narrative report on the incident, along with employee/student injury report forms as required, will be sent to the Risk Management as soon as practical after all details are known.



Appendix A

Hazard Communication Standard Labels

OSHA has updated the requirements for labeling of hazardous chemicals under its Hazard Communication Standard (HCS). As of June 1, 2015, all labels will be required to have pictograms, a signal word, hazard and precautionary statements, the product identifier, and supplier identification. A sample revised HCS label, identifying the required label elements, is shown on the right. Supplemental information can also be provided on the label as needed.

For more information: www.osha.gov



(800) 321-OSHA (6742)

SAMPLE LABEL	
<p style="text-align: center;">PRODUCT IDENTIFIER</p> <p>CODE _____</p> <p>Product Name _____</p> <p style="text-align: center;">SUPPLIER IDENTIFICATION</p> <p>Company Name _____</p> <p>Street Address _____</p> <p>City _____ State _____</p> <p>Postal Code _____ Country _____</p> <p>Emergency Phone Number _____</p> <p style="text-align: center;">PRECAUTIONARY STATEMENTS</p> <p>Keep container tightly closed. Store in cool, well ventilated place that is locked. Keep away from heat/sparks/open flame. No smoking. Only use non-sparking tools. Use explosion-proof electrical equipment. Take precautionary measure against static discharge. Ground and bond container and receiving equipment. Do not breathe vapors. Wear Protective gloves. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Dispose of in accordance with local, regional, national, international regulations as specified.</p> <p>In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO₂) fire extinguisher to extinguish.</p> <p>First Aid If exposed call Poison Center. If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.</p>	<p style="text-align: center;">HAZARD PICTOGRAMS</p> <div style="text-align: center;"> </div> <p style="text-align: center;">SIGNAL WORD Danger</p> <p style="text-align: center;">HAZARD STATEMENT Highly flammable liquid and vapor. May cause liver and kidney damage.</p> <p style="text-align: center;">SUPPLEMENTAL INFORMATION Directions for use</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Fill weight: _____ Lot Number _____</p> <p>Gross weight: _____ Fill Date: _____</p> <p>Expiration Date: _____</p>

Appendix B – Sample Science Chemical Inventory Sheet (Available in Excel from Risk Management)

Inventory ID	Chemical Name	Location	Quantity	Year Purchased	Year Expires	Notes	Chemical Form	Container Type	SDS (Y or N)

