

CHEMICAL HYGEIENE PLAN

For Compliance with:
California Code of Regulations,
Title 8 General Industry Safety Orders
Section 5191

OTIS COLLEGE OF ART AND DESIGN

*9045 Lincoln Blvd
Los Angeles, CA. 90045*

Mohammed Ahmed, Operations Manager

Last reviewed and updated:

March 2023

Table of Contents

Purpose 1

Definitions..... 1

Regulatory Compliance 1

Chemical Procurement, Distribution, and Storage..... 2

Housekeeping, Maintenance, and Inspection 2

Protective Apparel and Equipment for each Laboratory: 3

Signs and Labels 3

Information and Training Program..... 4

Emergency and Personal Protection Training..... 4

Waste Disposal Program 4

Spills and Accidents..... 5

General Guidelines for Working with Laboratory Chemicals 6

Emergency First Aid Procedures: 6

Accidents and spills..... 6

Avoidance of “routine” exposure: 6

Hazard Communication:..... 8

Hazardous Chemical Safety:..... 8

Exposure Hazard Descriptions: 8

Safe Laboratory and Shop Practices: 9

Safety Training:..... 11

Pollution Prevention and Chemical Stock Sustainability: 11

Appendix: 12

Purpose

The Chemical Hygiene Plan intends to establish compliance with OSHA's standard for Occupational Exposure to Hazardous **Chemicals** in Laboratories. This program aims to establish a safe and healthy occupational environment here at Otis College of Art & Design, free from all recognizable hazards.

Definitions

Emergency: Any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that results in an uncontrolled release of a hazardous chemical into the workplace.

Hazardous Chemical: Any chemical which is classified as a health hazard or simple asphyxiant by the Hazard Communication Standard (Section 5194)

Health Hazard: A chemical that is classified as posing one of the following hazardous effects: Acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); aspiration hazard.

The criteria for determining whether a chemical is classified as a health hazard are detailed in Appendix A of the Hazard Communication Standard (section 5194) and Section 5194(c) (definition of "simple asphyxiant").

Laboratory: A facility where the "laboratory use of hazardous chemicals" occurs. It is a workplace where relatively small quantities of hazardous chemicals are used on a non-production basis.

Regulatory Compliance

The Chemical Hygiene Plan (CHP) applies to all Otis College of Art and Design craft shops and laboratories that utilize, store, or handle potentially hazardous chemicals and all individuals who work in these facilities. Otis College students, faculty, and employees who work in shops and

laboratories have the right to be informed about the potential health hazards of the chemicals in their work areas and be appropriately trained to work safely with these substances.

Implementation of the necessary work practices, procedures, and policies outlined in the Chemical Hygiene Plan is required by Title 8, California Code of Regulations, Section 5191, "Occupational Exposures to Hazardous Chemicals in Laboratories."

Chemical Procurement, Distribution, and Storage

Prior to a substance being received, information on proper handling, storage, and disposal should be known to those who will be involved. No container without a proper and adequate identifying label should be accepted. Preferably, all substances should be received in a central location.

Any toxic substances or any chemicals identified as a health hazard (see definitions), should be segregated in a distinct area with local exhaust ventilation. Moreover, chemicals that are determined to be toxic or health hazards and other chemicals whose containers have been opened should be in unbreakable secondary containers. In addition, stored chemicals shall be inspected/examined annually for replacement, deterioration, and container integrity.

When transporting (hand-caring) chemicals, make sure the container is placed in an outside container or bucket. Freight-only elevators should be utilized, if possible.

Storing any chemicals on bench tops and in hoods is discouraged. Exposure to heat or direct sunlight should be avoided. Amounts permitted should be as practical. A continuous inventory is required, and during inventory items that are not needed should be discarded or returned to the designated storeroom/stockroom.

Housekeeping, Maintenance, and Inspection

Floors must be cleaned regularly. Housekeeping and chemical hygiene inspections shall be held semi-annually.

Chemical Hygiene Plan

Eyewash fountains shall be inspected every three months, and respirators for routine use shall be inspected periodically by the laboratory supervisor. In addition, safety showers and other safety equipment shall be inspected and tested regularly not more than three months.

Stairways and hallways should not be used as storage areas. Access to exits, emergency equipment, and utility controls should never be blocked.

Protective Apparel and Equipment for each Laboratory:

Protective apparel shall be compatible with the required degree of protection for substances being handled, the following are determined to be essential:

- An easily accessible drench-type safety shower
- An eyewash fountain
- A fire extinguisher

The following should be available nearby for safety reasons:

- Respiratory protection
- Fire alarm
- Telephone for emergency use, and
- Other items designated by the laboratory supervisor

All accidents and records at the Otis College facility should be written and retained appropriately. Otis College's chemical hygiene plan records should document that the facilities and precautions were compatible with current knowledge and regulations. Inventory and usage for high-risk substances shall be kept as specified in sections.

Signs and Labels

Prominent signs of Emergency telephone numbers of emergency personnel/facilities and other emergency procedures shall be posted in various locations at Otis College, including laboratories

and design craft shops.

Containers must have identity labels showing contents inside containers (including waste receptacles) and associated hazards. Location signs for safety showers, eyewash stations, other safety and first aid equipment, exits, and areas where food and beverage consumption and storage are permitted; and warning at areas or equipment where special or unusual hazards exist shall be installed.

Information and Training Program

The aim of this program is to ensure that all individuals at Otis College who are at risk are adequately informed about the work in the laboratory/craft shops/studios, its risks, and what to do if an accident occurs.

Emergency and Personal Protection Training

All individuals who work at laboratories and craft shops should know the location and proper use of available protective apparel and equipment. The full-time personnel of the laboratory and shops shall be trained in the proper use of emergency equipment and procedures. In addition, first-aid instruction shall be available as needed.

The individual/ personnel responsible for receiving and stockroom/storerroom should know about hazards, handling equipment, protective apparel, and relevant regulations.

Training and education program shall be a regular and continuous activity.

Waste Disposal Program

To mitigate the harm to people, other organisms, and the environment that results from the disposal of waste laboratory chemicals, Otis College has established a waste disposal program with a qualified vendor to remove all hazardous waste responsibly.

Chemical Hygiene Plan

Disposal by pouring chemicals and solutions down the drain or adding them to mixed refuse for landfill burial is unacceptable.

Otis College employees working at laboratories, craft shops, and painting studios shall dispose of hazardous chemicals and items in the designated centralized storage area. The hazardous waste being disposed of shall be designated and segregated as corrosive, flammable, etc., labeled and stored at the designated secure area. Hazardous waste stored in containers in laboratories and workshops shall be picked up regularly. The contracted toxic waste recycling vendor shall collect the hazardous waste from the Otis facility, segregate it based on the labels installed on containers for identification, and determine what materials can be incinerated as the most practical disposal method for combustible laboratory waste. The transport from the institution to the vendor's facility shall comply with DOT regulations.

Unlabeled containers of chemicals and solutions shall undergo prompt disposal, if partially used, they shall not be opened. Before the worker's employment in the laboratory and craft shops ends, chemicals for which that individual was responsible shall be discarded or returned to designated storage.

Spills and Accidents

- A written emergency plan shall be established and stored in a centralized location for every personnel's access. The emergency plan includes procedures for ventilation failure, emergency procedure, evacuation, medical care, hazardous chemical spill, reporting, and drills.
- The chemical spill policy in the Otis emergency plan included consideration of prevention, containment, cleanup, and reporting.
- There is an alarm system installed on every floor at Otis College to alert people at times of emergency.
- Accidents or near-accidents that occurred at Otis College that involves chemicals shall be recorded and analyzed, with the results distributed to all who might benefit accordingly.

General Guidelines for Working with Laboratory Chemicals

Emergency First Aid Procedures:

Accidents and spills

- **Eye Contact:** Promptly flush eyes with water for a prolonged period (15 minutes) and seek medical attention.
- **Ingestion/Inhalation:** Refer to the label on the bottle or check MSDS for directions. This is one route of entry for which treatment depends on the type and amount of chemicals involved. Seek medical attention.
- **Skin Contact:** Promptly flush the affected area with water and remove any contaminated clothing. If symptoms persist after washing, seek medical attention.
- **Clean-up:** Promptly clean up spills, using appropriate protective apparel and equipment and proper disposal.

Avoidance of “routine” exposure:

- Do not taste or smell chemicals. Vent apparatus may discharge toxic chemicals (vacuum pumps, distillation columns, etc.) into local exhaust devices.
- Inspect gloves and test glove boxes before use.
- Do not allow the release of toxic substances in cold rooms and warm rooms since these contain recirculated atmospheres.

Choice of chemicals - Use only those chemicals for which the quality of the available ventilation system is appropriate.

Eating, smoking, etc.: Avoid eating, drinking, smoking, chewing gum, or application of cosmetics in an area where laboratory chemicals are present. Ensure to wash your hands before conducting these activities. Avoid storage, handling, or consumption of food or beverages in storage areas,

refrigerators, glassware, or utensils that are used for laboratory operations as well.

Equipment and glassware – Handle and store laboratory glassware with care to avoid damage, do not use damaged glassware. Use extra care with Dewar flasks and other evacuated glass apparatus; shield or wrap them to contain chemicals and fragments should implosion occur. Use equipment only for its designed purpose.

Exiting – wash areas of exposed skin well before leaving the laboratory.

Horseplay – Avoid practical jokes or other behavior which might confuse, startle, or distract another worker.

Mouth suction: Do not use mouth suction for pipetting or starting a siphon.

Personal apparel: Confine long hair and loose clothing. Wear shoes at all times in the laboratory but do not wear sandals, perforated shoes, or sneakers.

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

Personal protection: Appropriate eye protection shall be worn by all persons, including visitors, where chemicals are stored or handled. Wear appropriate gloves when the potential for contact with toxic materials exists; inspect the gloves before each use, wash them before removal, and replace them periodically. Use appropriate respiratory equipment when air containment concentrations are not sufficiently restricted by engineering controls, inspecting the respirator before use. Use any other protective and emergency apparel and equipment as appropriate. Avoid using contact lenses in the laboratory unless necessary; if they are used, inform the supervisor so special precautions can be taken.

Hazard Communication:

Safety Data Sheets (SDSs) must be in a central location and easily accessible in the event of an emergency. In accordance with Global Harmonization System, each safety data sheet must include at a minimum, the following sections: identification of the substance, hazard identification, composition/information on ingredients, first aid, firefighting and accidental release measures, handling and storage, exposure controls, physical, chemical, and stability properties, toxicological, ecological, disposal, transportation, and regulatory information.

All chemicals used in Otis College must be kept in sturdy and tightly closed containers and must include labels that clearly identify the hazards associated with that chemical. Examples of pictograms are included in the Appendix.

Hazardous Chemical Safety:

Chemicals can be classified into several different hazard classes. The hazard class will determine how these materials should be stored and handled and what special equipment and procedures are needed to use them safely. In addition to specific chemical labels, employees can find hazard information for specific chemicals by referencing the Safety Data Sheet (SDS).

The term "hazardous substance" refers to any chemical for which there is statistically significant evidence based on at least one study conducted per established scientific principles that acute or chronic health effects may occur in exposed individuals.

It is essential that all individuals understand the types of hazards, recognize the routes of exposure, and are familiar with the major hazard classes of chemicals. It is often difficult to know specific hazards associated with new compounds and mixtures. Therefore, it's recommended that all chemical compounds be treated as potentially harmful and use appropriate eye, inhalation, and skin protection equipment.

Exposure Hazard Descriptions:

Flammable liquids include chemicals with a flashpoint of fewer than 140 degrees Fahrenheit and

ignite with a rapid discharge of high heat levels. These chemicals should be stored in inflammable storage cabinets, and great care must be taken with any nearby ignition sources. Particular attention should also be given to preventing static electricity and sparks when handling flammable liquids.

Reactive and explosive chemicals can suddenly decompose, form combustible substances, and release large volumes of gases and heat, if subjected to mechanical shock, elevated temperature, or mixing with other chemicals. These substances pose an immediate potential hazard, and one must carefully review procedures for use. A separate flame-resistant storage cabinet is used to keep these substances.

Corrosive chemicals, such as acids and bases, can cause the destruction of living tissue through direct contact with skin, and corrosive fumes can be breathed in or contaminate clothing and nearby surfaces. Common symptoms of exposure can include shortness of breath, nausea, pain, blurred vision, reddening, inflammation, blistering, and burns. Corrosive chemicals should be segregated from other chemicals and require secondary containment when in storage.

Other chemicals that are harmful to health include irritants and sensitizers. The most common example of an irritant may be ordinary smoke which can irritate the nasal passages and respiratory system, causing discomfort and may require medical intervention. A sensitizer is a chemical that causes exposed people to develop an allergic reaction in normal tissue after repeated exposure to a substance.

Safe Laboratory and Shop Practices:

Use eye goggles and any other personal protective equipment in laboratories and shops while performing procedures involving hazardous chemicals or materials. Wear closed-toe shoes and full-length pants, and confine long hair and loose clothing to avoid accidental contamination. Be aware of the locations of first aid kits, emergency eyewash, and shower stations.

Chemical Handling: Properly label and store all chemicals in use and do not pour any used chemicals down the drain; always check if the disposal container is not leak-free. Do not use damaged equipment and unsafe materials. Avoid storing chemical containers outside of cabinets or

Chemical Hygiene Plan

leave open containers haphazardly. Do not allow the exhaust vents or airflow to be blocked. Do not mix any chemicals you're unfamiliar with them.

Emergency Response: Be prepared for an accident or spill and refer to the emergency response procedures for the specific material. In case of eye contact with a chemical, promptly flush eyes with water for a prolonged period (15 minutes) and seek medical attention. In case of skin contact with a chemical, promptly flush the affected area with water and remove any contaminated clothing. Always seek medical attention following chemical exposure.

Laboratory and Shop Operations: Keep the work area clean and uncluttered. Be sure to verify appropriate safe chemical handling techniques to avoid accidental spills or exposures. Be alert to unsafe conditions and ensure that they are corrected when detected. Do not engage in distracting behavior such as practical jokes, as this type of conduct may confuse, startle, or distract others.

Food/Drink: No food or drink may be present or consumed in laboratories, shops, or other spaces where hazardous materials are stored or handled. Do not smoke, chew gum, or apply cosmetics in areas where chemicals are present, and never directly smell or taste any chemicals. Do not store, handle, or consume food or beverages in storage areas, refrigerators, glassware, or utensils used for chemicals—Wash exposed skin areas well before leaving the laboratories and shops.

Medical Surveillance:

Any laboratory or shop employee, member of faculty, or student who exhibits signs and symptoms of adverse health effects from work-related exposure to a hazardous chemical should report immediately for a medical evaluation.

Chemical Inventory Control:

All laboratories and shops are required to keep an updated copy of their chemical inventory on file, which must be made available upon request during an official inspection, audit, or subpoena. For each hazardous substance on their inventory list, specific information on any associated health or safety hazards must be readily available to all students, faculty, and personnel.

Typically, the available chemical inventory lists the chemicals and compressed gases utilized and stored in the labs. The quantity of these chemicals could be one criterion to ensure compliance with storage limits and fire regulations. It also can be used in an emergency to identify potential hazards for emergency response operations.

Safety Training:

Practical training is critical to facilitate a safe and healthy work environment and prevent various occupational accidents. All laboratory and shop supervisors, as well as members of faculty, must participate in formal safety training and ensure that all their staff and students have appropriate safety training before working in a laboratory. As a good practice, all safety training must be provided and completed before starting to work in a laboratory or a shop, before new exposure or working conditions change.










Pollution Prevention and Chemical Stock Sustainability:

Otis College students, faculty members, and staff are highly encouraged not to throw away used chemicals used for photography, print-making, and fine arts (paints, lacquers, varnishes, etc.) if any usable materials remain in the containers. Substitutions of bio-degradable materials and less-toxic artwork preparation and treatment options are recommended.

Otis College's goal is to reduce generated hazardous waste footprint and maintain environmentally conscientious practices within its craft shops and laboratories. Students are being educated on a sustainable approach to using substances potentially dangerous to public health and the environment and utilizing a resources exchange scheme to extend the use of hazardous supplies until only trace amounts remain.

Appendix:

Sample pictograms for hazardous containers:

<p>Health Hazard</p>  <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	<p>Flame</p>  <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	<p>Exclamation Mark</p>  <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
<p>Gas Cylinder</p>  <ul style="list-style-type: none"> • Gases Under Pressure 	<p>Corrosion</p>  <ul style="list-style-type: none"> • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals 	<p>Exploding Bomb</p>  <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
<p>Flame Over Circle</p>  <ul style="list-style-type: none"> • Oxidizers 	<p>Environment (Non-Mandatory)</p>  <ul style="list-style-type: none"> • Aquatic Toxicity 	<p>Skull and Crossbones</p>  <ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)