

## Chemical Hygiene Plan

### **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 to be properly 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".

### **Hazard Communication:**

Safety Data Sheets (SDSs) must be in a central location that can be accessed immediately 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 the pictograms are included in the Appendix.

### **Hazardous Chemical Safety:**

Chemicals can be divided 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, hazard information for specific chemicals can be found by referencing the Safety Data Sheet (SDS) for that chemical.

The term "hazardous substance" refers to any chemical for which there is statistically significant evidence based on at least one study conducted in accordance with 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. In many cases, the specific hazards associated with new compounds and mixtures will not be known, so it is recommended that all chemical compounds be treated as if they were potentially harmful and to use appropriate eye, inhalation and skin protection equipment.

### **Exposure Hazard Descriptions:**

Flammable liquids include those chemicals that have a flashpoint of less than 140 degrees Fahrenheit and ignite with rapid discharge of high levels of heat. These materials must be stored in flammable storage cabinets and great care must be taken with any nearby ignition sources. Particular attention should be also given to preventing static electricity and sparks when handling flammable liquids.

Reactive and explosive chemicals can suddenly decompose, form explosive substances, and release of 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 procedures which use them must be carefully reviewed. These materials must also be stored in a separate flame resistant storage cabinets.

Corrosive chemicals, such as acids and bases, can cause 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 protective equipment in laboratories and shops while performing procedures that involve use of 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 station.

**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 leave open containers haphazardly. Do not allow the exhaust vents or air flow 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 a chemical exposure.

**Laboratory and Shop Operations:** Keep the work area clean and uncluttered. Be sure to verify appropriate safe chemical handling techniques in order 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 any other space in which 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 which are also used for chemicals. Wash areas of exposed skin well before leaving the laboratories and shops.

**Medical Surveillance:**

Any laboratory or shop employee, member of faculty, or a 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, specific information on any associated health or safety hazards must be made readily available to all students, faculty and personnel.

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Typically, a current chemical inventory lists the chemicals and compressed gases used and stored in the labs and the quantity of these chemicals and can be used to ensure compliance with storage limits and fire regulations and can be used in an emergency to identify potential hazards for emergency response operations.

**Safety Training:**

Effective 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 respectively have appropriate safety training before working in a laboratory. As a good practice, all safety training must be completed before: beginning work in the laboratory or a shop, prior to new exposure situations, or as 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 still remain in the containers. Substitutions of bio-degradable materials and less-toxic artwork preparation and treatment options are strongly recommended.

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

**Appendix:**

Sample pictograms for hazardous containers:

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