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|  | STANDARD OPERATING PROCEDURES | | |
| | SAFETY, HEALTH & SUSTAINABILITY | | |
| CHEMICAL INVENTORY | | | |
| Hazardous Materials | Implementation Date: 10/31/2018 | Revision Date: 9/5/2019 | Revised By: EK |

1.0 AUTHORITY

Regulations and Guidelines:

- California Code of Regulations, Title 8, Section §5194. Hazard Communication
- California Code of Regulations, Title 8, Section §5191. Occupational exposure of hazardous chemicals in laboratories.
- California Code of Regulations, Title 8, Section §5164. Storage of Hazardous Substances.
- 49 Code of Federal Regulation, Part §171.101
- California State University San Marcos Chemical Hygiene Plan

2.0 SCOPE:

This standard operating procedure (SOP) applies to all laboratories at CSUSM that contain hazardous materials. This document applies to all individuals involved in the inventory management of those hazardous materials.

3.0 PURPOSE:

The purpose of this SOP is to outline the procedures for the University's chemical inventory system, Chimera. Every laboratory is required to update their chemical inventory when new chemicals are brought into the laboratory. SH&S personnel updates the chemical inventory annually for all laboratories.

4.0 DEFINITIONS:

- **Hazardous Material:** A substance or material that is capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and has been designated as hazardous under section 5103 of Federal hazardous materials transportation law (49 U.S.C. 5103). The term includes hazardous substances, hazardous wastes, marine pollutants, elevated temperature materials, materials designated as hazardous in the Hazardous Materials Table (see 49 CFR 172.101).
- **Ignitable:** Liquids with flash points below 140°F (60°C), non-liquids that cause fire through specific conditions, ignitable compressed gases, and oxidizers.
- **Corrosive:** Aqueous solution with a pH of less than or equal to 2, or a pH greater than or equal to 12.5.
- **Reactive:** Unstable under normal conditions, may react with air or water, may give off toxic gases and may be capable of detonation or explosion under normal conditions or when heated.
- **Toxic:** Harmful when ingested or absorbed.

- **Safety Data Sheets:** The Safety Data Sheet (SDS) is a comprehensive information document about a chemical substance or mixture. The SDS includes information such as the properties of each chemical; the physical, health, and environmental health hazards; protective measures; safety precautions for handling, storing, and transporting the chemical, and proper disposal.

5.0 NECESSARY EQUIPMENT FOR CHEMICAL INVENTORY:

Internet Connection:

Chimera is an online program that is accessible through any device with a web browser and connection to the internet. Follow this [link](#) to access Chimera.

Barcodes:

The barcodes that are used for all laboratory chemicals are made with a chemical resistant polyvinyl compound labeled “CSUSM CHEM ID”. These barcodes are formatted to provide a unique number for each lab chemical inventoried. The barcode is assigned to an individual product for the life of that product. A barcode is only used once and will never be re-used. Additional barcodes can be requested by contacting SH&S.

Personal Protective Equipment:

It is required that appropriate Personal Protective Equipment (PPE) is worn while conducting the physical inventory. PPE includes lab coats, nitrile gloves, eye protection, long pants, and closed-toe shoes.

6.0 CHEMICAL INVENTORY PROCEDURE:

Chemical Inventory Guidance:

- It is a requirement of CSUSM’s Chemical Hygiene Plan to maintain an updated chemical inventory. This document defines which chemicals should be inventoried, the minimum information that is required to be tracked, and how often it should be updated.

Items Required to be Inventoried:

- Any, but not limited to, chemical containers that have a manufacturer’s label which denotes physical or health hazards, or whose SDS denotes hazards, are to be included in the inventory. In general, laboratory chemicals and reagents are inventoried even if the hazard is considered low. Almost all chemicals received from chemical manufacturers such as Acros Organics, Alfa Aesar, Bio-Rad, Fisher Scientific, Fluka, EMD Millipore, Qiagen, Sigma-Aldrich, etc., will be included in the lab inventory.
- Note: Each PI or designated person(s) will be responsible for the proper hazard determination for all mixtures that are commonly made and used in the research lab.

Adding Un-Barcoded Chemicals to Inventory:

1. Log in to [Chimera](#).
 - If you do not have access to Chimera, contact SH&S.
2. Select “Inventory Management” at the top of the screen.
3. Select “Add Inventory”.

4. Fill in information for all required fields: building, room, and CSUSM barcode. Leave the **Static** slider unselected (red), then select “Save”
5. Search by the Part/Lot/Cat # or the Product Name. Select the option that matches the product, then select “Add to Inventory”.
6. Fill in information for the additional fields: size, unit, container type, part number, CAS number, and quantity. Then select “Submit”.
7. Place the CSUSM barcode onto the manufacturer’s container (e.g. amber bottle).
 - **Avoid** covering up chemical information with the barcode.
 - If CSUSM barcodes are needed, please contact SH&S at ext. 4502.
8. Select ‘Add Inventory’ after the required information has been filled out.

Removing Chemicals from Inventory:

1. Log in to [Chimera](#).
2. Select “Inventory Management” at the top of the screen.
3. Select “Remove Inventory”.
4. Leave the slider on Barcodes. Enter the CSUSM barcode number of the chemical to be removed and select “Remove Barcode”. This will remove chemicals no longer present in the lab.

Items Not Inventoried:

1. Chemicals contained in a kit are not individually inventoried. They can be inventoried under the kit name.
2. Buffer solutions for pH probes or growth media.
3. Non-hazardous buffers.
4. Salts/Sodium Chloride.
5. Sucrose and sugars.
6. Commercial food, drugs and cosmetics, covered by the FDA.
7. Hazardous waste.
8. Retail products used and stored in amounts and frequencies typical to ordinary household usage, such as Simple Green, Windex, and antibacterial soaps.
9. Biological Material (e.g. plant or animal tissue, reproducing biological organisms, bacteria, viruses, fungi, or yeast).
10. Test strips (pH, Peroxide, Water Hardness, Iron, Phosphate, etc.)
11. Water, Demineralized/Deionized Water.
12. Desiccant.

Attachment A: User Reference Guide



Chimera User
Reference Guide