

CHEMICAL INVENTORY PROGRAM DOCUMENT - EXTERNAL

CONTENTS

INTRODUCTION	1
OBJECTIVES	1
RESPONSIBILITIES	1
ACCESS	2
NEW INVENTORIES	2
INVENTORY MANAGEMENT	2
INVENTORY CERTIFICATION	2
NON-LAB LOCATIONS	2
SPOT CHECKS	2
RELATED REGULATIONS	3
DEFINITIONS	3
Appendix A: UC Chemicals Quick Start Guide	4

INTRODUCTION

A number of hazardous materials are used for research and instructional purposes at the University of California, Riverside (UCR). An accurate chemical inventory is required to comply with applicable state and federal laws. These laws are written for the safety of employees, the community, and first responders.

OBJECTIVES

The objectives of this program include, but are not limited to:

- Provide researchers with the knowledge and tools to keep an accurate inventory of all hazardous materials
- Provide university leadership with reports on hazardous material usage across campus
- Assist the Fire Prevention Team with ensuring the campus meets all applicable fire codes
- Comply with all necessary state and federal reporting obligations

RESPONSIBILITIES

Environmental Health and Safety

The Chemical Inventory Specialist is responsible for the management of the campus' chemical inventory and for the generation of reports based on the inventory data. EH&S will provide training to the campus on the use of *UC Chemicals*.

Supervisor/Principal Investigators (PIs)

An employee who may have authority to hire personnel, evaluate performance, direct work assignments, apply progressive discipline, direct resources to correct identified safety issues. This includes a Principal Investigator, area manager, unit manager, project manager, superintendent, and foreman/person. Unless specified in writing, the default "supervisor" in laboratory/technical areas is the Principal Investigator. The supervisor/PI is responsible for ensuring that designee upkeeps the inventory on a day-to-day basis. The supervisor/PI is also responsible for certifying that their inventory is accurate and up to date annually as part of the annual laboratory safety evaluation. As the person purchasing the material, it is the responsibility of the supervisor/PI to update the inventory.



For purposes of this policy, a worker is an individual who actively performs work functions with hazardous materials or equipment in a laboratory/technical area. A "worker" may be faculty, staff, student volunteer assisting in a non-academic class, or visitor/visiting scholar. Workers/laboratory personnel are responsible for the following:

- Familiarize with hazardous materials that are in the laboratory regardless of whether or not they work directly with them
- Upkeep the inventory on a day-to-day basis in between EH&S-led inventory updates
- Assist EH&S with spot checks

ACCESS

<u>UC Chemicals</u> will automatically grant inventory access to all personnel in the associated *Profile* group. Chemical inventories can have one or more *Profile* groups associated with them. The "Inventory Access" menu in the "Inventory Summary" page will allow an inventory owner to associate *Profile* groups.

Profile Delegates and Chemical Inventory Managers have access to all of the options for a chemical inventory allowing them to make changes to sublocations, rename the inventory, and use the import feature. Delegates can be added in *Profile*, but will have elevated access in other Risk and Safety Solutions (RSS) tools. Chemical Inventory Managers only have elevated access in *UC Chemicals*. They can be added in the "Inventory Access" menu in the "Inventory Summary" page.

NEW INVENTORIES

New PIs should request EH&S assistance with the creation of new chemical inventories. The Chemical Inventory Specialist will assist the PI with setting up the inventory and provide training to the lab staff on how to maintain and use the system. Additional barcodes can be requested from the <u>EH&S website</u> or by contacting the Chemical Inventory Specialist.

INVENTORY MANAGEMENT

Inventories should be updated by lab personnel on a day-to-day basis as new chemicals are purchased and old chemicals are used up. New lab personnel can request training from the ehslaboratory@ucr.edu.

INVENTORY CERTIFICATION

Inventory certification must be done annually by the supervisor/PI and will be verified during the EH&S annual lab evaluation. This certification cannot be delegated to lab managers. The supervisor/PI should ensure all of the containers in their lab have *UC Chemicals* barcodes and that their researchers have been removing chemicals from the inventory as they are used. The inventory certification button can be found in the top right section of the "Manage Inventory" page in *UC Chemicals*.

NON-LAB LOCATIONS

Hazardous Materials are not limited to labs and can also be found in areas like shops, restaurants and dining halls, and in Agricultural Operations. These locations will be managed on a case-by-case basis. Contact the Chemical Inventory Specialist for assistance with these locations.

SPOT CHECKS

Annual spot checks will be conducted by EH&S to ensure chemical inventories are accurately captured in UC Chemicals. A percentage of labs will be selected randomly at the beginning of each fiscal year for spot checks. A report will be sent to the appropriate department chair at the end of the year with statistics from the spot checks.



RELATED REGULATIONS

Hazard Communication Standard from Cal/OSHA 8CCR5194(e)(1)(A) Emergency Planning and Community Right-to-Know Act (EPCRA) Department of Homeland Security Chemical Facility Anti-Terrorism Standard (CFATS) California Fire Code Air Quality Management Mandated Toxic Air Contaminant Emissions

DEFINITIONS

Hazardous material is generally defined as any substance that could adversely affect the safety of the public, handlers or carriers during transportation. Hazardous material, as defined by the DOT, is any substance that appears in the 49 CFR Hazardous Materials Table.

Hazardous material regulations may apply to commercial products, chemical mixtures, and newly synthesized compounds. Various types of batteries, fuel containers and cleaning products are examples of materials that are regulated for shipment.

UCR Environmental Health & Safety Appendix A: UC Chemicals Quick Start Guide

About UC Chemicals



UC Chemicals is a cloud-based chemical inventory management tool developed with a researcher-centric approach. It allows easy tracking and maintenance of containers using a barcoding system. Chemical and safety information, such as hazard codes and first aid, are added from safety data sheets. The application enables users to create chemical networks to easily share chemicals while controlling access. UC Chemicals includes a complementary web application that works in sync with the mobile app and has additional features such as structure search and export capabilities.

Installing the UC Chemicals Application

For iOS users

- 1. Navigate to the App Store
- 2. Search for UC Chemicals
- 3. Select Install



- 4. Launch the application
- 5. Select your campus



6. Log in with your campus credentials

	11:55 1	al 🗢 🔳
	UCR Central Authentication Service	
Welcome to Chemicals	MULTIFACTO AUTHENTICAT IS MANDATO FOR FACULT STAFF ANI STUDENTS	DR FI®N PRY TY, D S.
email	NetID:	
Sign In	Password:	
	Warn me before logging in to other sites	Login Now
	Forgot your password?	
	Information Technology Solution	ons
	Done	4 14

For Android users

- 1. Navigate to the Google Play Store
- 2. Search for UC Chemicals
- 3. Select Install
- 4. Launch the application
- 5. Select your campus
- 6. Log in with your campus credentials

Adding Inventory Managers (For PIs and Inventory Managers-- Desktop)

1. Log in to http://ehs.ucop.edu/chemicals

igstarrow igstarro	
Email	
CONTINUE Need Hép? Const:ct our Service Deak.	
Copyright © The Regents of the University of California. All rights reserved. Prinacy Palicy	

2. Select the Inventory Summary button



$\equiv \mid$ UC Safety \mid Chemicals	California Museum of Photography	0 ⊞ 8
	Welcome! California Museum of Photography	
	Q Search Chemicals + Add to Inventory	

3. Select the *** menu icon located to the right of Inventory Access

UC Safety Chemicals California Museum of Photography			0 # 0
Inventory Summary: California Museum of Photogr	raphy 🧪		
Inventory Overview Total Chemicals: 1 Total Containers: 1 Container Warnings: 0 Beacoded: 0 Missing Beroode: 1	i	Celifornia Museum of Photography has not been certified as accurate.	
Tags Add a new tag			
No tags created for California Museum of Photography			
Colleagues Sauch Investories Select			
Inventory Access			-
Groups: Members: * Campus-wide Chem Admins with access to viewiedit your inventory: * Users with read-only access to your inventory: *			

4. Select Add/Remove Inventory Managers





- 5. Select the members you wish to add or remove as Inventory Managers
- 6. Select Done

Manage Lab (For PIs and Inventory Managers-- Desktop)

PIs, Inventory Managers, and Delegates have access to the Manage Lab section to perform administrative functions and can be accessed on the desktop version

Inventory Summary

- Provides a summary of Total Chemicals and Total Containers in your lab
- View containers currently barcoded
- View containers missing barcodes

Tags

Add or remove tags for your lab

Inventory Access

View lab members in your group

E UC Safety Chemicals California Museum of Photography	Ø ⊞ 0
Inventory Summary: California Museum of Photography 💉	
Inventory Overview : Teal Overview : Teal Overview : Container : Container : Becode: 0 Becode: 0 Manage Becode: 1	California Museum of Photography has not been certified as accurate.
Tags Add a new tag	
No tags created for California Museum of Photography	
Cocleagues Exercit Investores Safect	
Inventory Access Inventory Owner:	I

Colleagues

• Add labs you work closely with to share chemicals

PIs have the ability to mark containers as private for chemicals they wish not to share **Defining Sublocations**

- Adding a sublocation
 - 1. Select the + button to the right of the Sublocations

Import & Export Import Download Inventory Data	Reconciliation Reconcile your inventory by sublocation (barcode only) Reconcile your inventory by room
Door Hazard Signs Door Hazard signs inform entrants, visitors, and first responders what chemical hazards are expected to be found in a room and who to inventory for all chemicals in each room. Inventory Managers can indicate additional hazards and emergency contact information on the CALIFORNIA MUSEUM OF PHOTOGRAPHY BUILDING, Room A0103	contact in an emergency. The signs available for each room below include the chemical hazards GHS symbols. This comes from information in the chemical door hazard sign.
Sublocations 🖶 Print A sublocation can be a specific location in your workspace such as a shelf, a fridge, a bench, etc. or you can designate your room as a CALIFORNIA MUSEUM OF PHOTOGRAPHY BUILDING, Room A0103	sublocation. Sublocations need to be created before you can add containers.
Not in Specific Location Barcode: Containers: 1 ambient temperature, ambient pressure	:

2. Select the Building Name and Room Number



- 3. Enter in a Sublocation Name
- 4. **Barcode** The barcode can be entered in manually or scanned at a later time with your mobile device
- 5. Temperature and Pressure default to Ambient and can be edited as needed
- 6. Mark the sublocation as private to prevent sharing
- 7. Select the appropriate hazard pictograms associated with the chemicals stored in the sublocation
- 8. Select the Save button

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ime *		<u>(63</u>	0
arode	Explosive	Flammable	Oxidizing
	I Z		See
nperature * nbient ~	Correshie	Compressed Gas	Taxic
ssure ·			
noient ¥			
Private	Harmful	Health Hazard	Environmentally Damaging
 Editing a sublocation 1. Select the menu icon to the right of t 	he sublocation you w	rish to edit	
iklasstiana 🚍 p			
ubiocations - Print		add containers	
JDIOCALIONS 🗬 Print	cation. Sublocations need to be created before you can a	aud containers.	
JDIOCALIONS Print sublocation can be a specific location in your workspace such as a shelf, a fridge, a bench, etc. or you can designate your room as a sublo ALIFORNIA MUSEUM OF PHOTOGRAPHY BUILDING, Room A0103	cation. Sublocations need to be created before you can a	uu containers.	

Sublocations 👼 Print	•
A sublocation can be a specific location in your workspace such as a shelf, a fridge, a bench, etc. or you can designate your room as a sublocation. Sublocations need to be created before you can add containers.	\bigcirc
CALIFORNIA MUSEUM OF PHOTOGRAPHY BUILDING, Room A0103	Edit
Not in Specific Location Barcode: Containers: 1 ambient temperature, ambient pressure	Remove
 Edit information as needed Select the Save button 	

- Removing a sublocation
 - 1. Select the menu icon to the right of the sublocation you wish to remove
 - 2. Select Remove

Sublocations 🖷 Print	•
A sublocation can be a specific location in your workspace such as a shelf, a fridge, a bench, etc. or you can designate your room as a sublocation. Sublocations need to be created before you can add containers.	
CALIFORNIA MUSEUM OF PHOTOGRAPHY BUILDING, Room A0103	/ Edit
Not in Specific Location Barcode: Containers: 1 ambient temperature, ambient pressure	Remove

3. Select the Save button

Note: Before a sublocation can be deleted, the PI or delegate will be prompted to move the



Barcoding Sublocations (For PIs and Lab Managers-- Mobile only)

Barcoding sublocations allow users to enter specific location by scanning a barcode and is also crucial to the reconciliation process. Reconciliation relies on scanning the sublocation barcode followed by scanning all containers at this sublocation. Therefore it is recommended to barcode all sublocation during initial set-up of the lab. Use the same barcode labels that are used for barcoding containers.

1. Place a barcode on your sublocation



- 2. Launch the app on your mobile device
 - a. Select the settings icon O in the lower right hand corner
 - b. Select the Barcode your sublocations link

	Settings	
	California Museum of Photography	
	GENERAL	
	Switch Inventory	
	Sign Out	
	INITIAL SETUP	
	Barcode your imported inventory	
\subset	Barcode your sublocations	>
	SUPPORT	
	Version	1.0.8
	Version Privacy Policy	1.0.8
	Version Privacy Policy Contact Service Desk	1.0.8
	Version Privacy Policy Contact Service Desk	1.0.8
	Version Privacy Policy Contact Service Desk	1.0.8

- c. On your mobile device, select Scan on the sublocation you wish to barcode
- d. This will enable the camera feature on your mobile device



e. Scan the barcode



Note: The mobile app must be restarted after adding new sublocations

Adding Chemicals

To Add Chemicals

- 1. Select Add from the home page
- 2. Search chemicals by CAS number, product ID or name



3. Select the chemical



4. Select the add icon 🕂 on the right of the container section



- 5. Enter container information
- 6. Select Save

Back	Add		Save
BARCODES		[] Sc	an 🕐
Container			
Barcode			
LOCATION			3 Scan
Sublocation			
			Ť
INFORMATION			
Private Container			\bigcirc
Container Size			
0			
Amount in Container			
Units			
			Ŧ
Physical State			
Liquid			Ŧ
Container Type			
			~

To Add Commercial Substances (for Lab Managers and PIs only)

1. Select Add from the home page



2. Select the ••• menu icon





3. Select Add Commercial Substance

	Add	
Hydrofluoric aci	id	
Hydrofluoric Ac solution, 1% (w/ water CAS: 7664-39-3 Form: liquid GHS: H290, H301, Hydrafluore Acid sol	id (v) in , H311, H ution, 1%	(1)
Hydrofluoric aci 55% in water CAS: 7664-39-3 Form: liquid GHS: H300, H310, Hydrafluoric acid solu	id solution, 51- , H314, H318, H ution, 51-55% in w	\$ \$
Hydrofluoric aci 51 wt % in wate CAS: 7664-39-3 Form: liquid GHS: H300, H310, Hydrafluoric acid soli	id solution, 48- r , H314, H318, H ution, 48-51 wt % i	\$ \$
Hydrofluoric aci 75% in water CAS: 7664-39-3 Form: liquid GHS: H300_H340; Hydrofluoric acid soli	id solution, 71-	
Add Cor	mmercial Substa	ance

4. Enter chemical information



b. Select Save

			/		
	K Back	Add		Save	
	BARCODES		[] Sca		
	Container				
	Barcode				
	LOCATION		C] Scan	
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	Private Container		(\bigcirc	
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	Private Container Container Size 0 Amount in Container Units Physical State Liquid		(•	
	Private Container Container Size 0 Amount in Container Units Physical State Liquid Container Type		(•	

To Add a Novel Compound

- 1. Select **Add** from the home page 2. Select the menu icon
- 3. Select Add Novel Compound
- 4. Enter chemical information
- 5. Select Save



Frequently Asked Questions

- 1. Why barcode your inventories?
 - a. Barcoding allows you to uniquely identify each container in your laboratory. Once completed, inventory reconciliation can be done with a scanner which is both fast and accurate. Barcoding chemicals is mandatory at UCR.
- 2. Why barcode your sublocation?
 - Barcoding allows you to uniquely identify each sublocation in your laboratory. Lab members can easily and quickly locate their chemicals when a sublocation is barcoded. Barcoded sublocations and inventories provide faster and accurate inventory reconciliation. Barcoding sublocations is mandatory at UCR.
- 3. Who will be responsible for purchasing the barcodes?
 - a. EH&S will provide barcodes for labs upon request.
- 4. Do the barcodes scan on curved surfaces?
 - a. Yes. The barcode format and size has been chosen specifically for scanning on chemical containers of every size, shape, and material.
- 5. Does the system support sharing?
 - a. Yes. PIs can add colleagues within the application. Once established, this relationship allows researchers to search for chemicals within their colleagues labs and to submit requests to borrow.
- 6. Are the barcodes chemical resistant?
 - a. Yes. The materials have been chosen specifically for use in the chemical lab environment.
- 7. Can certain chemicals be marked as not shareable so friend labs cannot see them when searching?
 - a. Yes. A container can be marked as private which prevents view of that chemical by any friend lab.
- 8. Is UC Chemicals available as a mobile application?
 - a. Yes. UC Chemicals is available as a native mobile application for iOS and Android devices and also as a web-based application.
- 9. Does the app provide substructure searching?
 - a. Substructure searching is available on the desktop version. Select **Search**, then select the **Substructure** link.
- 10. The chemical information is incorrect. How do I correct this?
 - a. If chemical information is incorrect, users can report an issue. For mobile devices, select the Message icon located to the right of the chemical name to report an issue. For desktop, select the menu icon in the upper right hand corner and select Report A Problem.
- 11. How do I add/delete members for my lab?
 - a. Members of your lab can be managed through the UC Safety Profile page <u>http://ehs.ucop.edu/profile</u>. Pls can also designate a Delegate who can manage users and create groups on behalf of the Pl.
- 12. I have a new building or room for my lab, how do I add this?
 - a. A PI or Lab Manager can manage locations for through the UC Safety Profile page <u>http://ehs.ucop.edu/profile</u>. Select the Locations tab for your group and select the Add button to add a buildings/rooms.
- 13. How can I get access to the Manage Lab section?



- a. The Manage Lab section is available to only PIs and their lab managers. Please ask your PI to add you as a Lab Manager.
- 14. How do I correct a chemical that was incorrectly added to my inventory? Do I need to delete the chemical and add a new one?
 - a. The **Reassign** feature allows you to update an existing chemical to the correct chemical.