Chemical Inventory Management in the Environmental Health & Safety Assistant (EHSA by On Site Systems)

Sandra M. Hick, Ph.D. Chemical Safety Officer Environmental Health & Safety University of Central Florida

Issue date: 01/25/2023 Last updated: 08/09/2023 Revision #1

Wednesday, August 9, 2023

Chemical Inventory Management in EHSA

- 1. Accessing your Chemical Inventory
 - ➢ Log in
- 2. <u>Checking current inventory</u>
- 3. Adding inventory
 - a. <u>Single item, single component</u>
 - b. <u>A case of the same item (i.e. multiple items, same CAS#, vendor and catalog number)</u>
 - c. <u>Single item, mixture of components</u>
- 4. Disposing of inventory
 - a. <u>Disposing of a single item</u>
 - b. Disposing of several items from the same location
- 5. Transferring inventory

Why is Chemical Inventory Important?

Reasons for Chemical Inventory:	Required by:
Employee and Public Health	State Fire Marshal
	City of Orlando Industrial Waste Water
Environmental Protection	Florida EPCRA
	• RMP (40 CFR 68.130)
	• EPCRA Title III
	City of Orlando Industrial Waste Water
Emergency Planning, Spill Response, and	Florida EPCRA
Disaster Response	State Fire Marshal
	• CFATS (6 CFR 27)
	• RMP (40 CFR 68)
	• ATF

In short, it is important that the chemical inventory be current and accurate to prevent Local, State, and Federal agencies from levying large fines and generating negative publicity for UCF. These fines will be passed along to the Departments.

Reference: UCF Chemical Inventory Policy, FSP 2012 EHS0005

NFPA – Storage Limits

• Per NFPA 30:

Liquid Class	Liters (L) per Floor 1 (Includes increase for sprinklered floor)	L per Floor 2	L per Floor 3	L per Floor 4
IA	230	172.5	115	28.75
IB&C	920	690	460	115
IA,B&C	920	690	460	115
Combined*				
Class II	920	690	460	115
Class IIIA	1265	948.75	362.5	158.125

* Combined include the quantities of all material types

• Per NFPA 45

	Liters per 100 sq ft			
	Permitted	Permitted	Permitted	Permitted
	Floors 1-3	Floor 4	Floors 1-3	Floors 4
	(in Use)	(in Use)	(in Use & Storage)	(in Use & Storage)
Class I	7.5	5.625	15	11.25
Class I,II & IIIA	15	11.25	30	22.5
Combined*				

* Combined include the quantities of all material types

What are hazardous chemicals?

All chemicals and mixtures that are considered hazardous (corrosive, acutely toxic, reproductive toxins, flammable, etc.) and require a SDS be kept on hand must be included in the chemical inventory. Any chemical that has a National Fire Protection Association (NFPA) hazard rating of 2 or higher in any category must be included in the chemical inventory.

Non-hazardous chemicals may be included for tracking by the Department, but it is not a requirement. Dilutions that have been prepared from an inventoried parent container, and non-hazardous chemical products are excluded from the chemical inventory and SDS requirements. Non-flammable cleaning and maintenance products (available to the general public) are excluded from the chemical inventory, but may require a SDS.

Reference: UCF Chemical Inventory Policy, FSP 2012 EHS0005

1- EHSA Login Page

You can reach the Environmental Health & Safety Assistant (EHSA) website from any PC on campus. <u>https://ehs.net.ucf.edu</u>

If you are a verified user, use your NID and NID password to sign in.

Note: Firefox is the preferred browser. Results with another browser may be less desirable.



1 - Welcome Screen

- Once you log in, you will see a welcome screen with options available to you according to your role.
- Click the "Inventory" icon at the bottom of the page.

1

FHSA				FLORIDA
Home			S ONIVERSITE OF CENTRAL	User •
	IC Quick Links UCF Environmental Health & Safety Home Page UCF EHS Policies & Procedures Forms & References MSDSOnline (SDS repository) EHSA	<image/>		
	Waste Pickup Waste Supply Request Requests Records I	Safety nspections Reports Reports Reports Reports Reports Numentory Registration Registration	ation SOP Equipment EHS Assessment	

Select Quick Chemical Entry from the [Chemical Inventory] menu.

Chemical Inventory Quick Chemical Entry Chemical Inventory Verification Removal of Chemical from PI's Inventory Chemical Inventory Review Statement Chemical Inventory Transfer Approval Reports Chemical Inventory by PI Chemical Inventory by PI Chemical Inventory by PI Building Room Lab/Room Inventory for Placards-Detail

"Current Inventory" is the default setting from the "Inventory" pull-down menu.

You may also view other choices such as "Disposed Inventory," "Expiring Inventory," or "Expired Inventory" by using the pull-down "Inventory" menu.

EHSA Ir	nventory / Ch	nemical Inventory										e Help
+ Add -	✓ Edit →	Remove ▼ Remove Inventory	ve Filters PI: PI Name	• Inver	ntory: Current l	nventory	•				₽ Tra	nsfer Options -
										Item(s) mai Item(Item(s) marked in rked in <mark>Red</mark> are Ex s) marked in BLUE	Yellow will Expire piring or Expired are Appendix A
Drag a colun	nn header and	drop it here to group) by that column									
Share All Unshare All Shared	Inventory #	PI	Chemical Description	Multiple Ingredients?	Cas #	Hazard Statement(s)	Vendor	Catalog # †	# of Units	Qty per Unit	Volume / Size	Volume / Size
	T	T		<u>× </u>	T		T			\$		
	Bar Code	PI Name	ISOPROPANOL	NO	67-63-0		Fisher Scientific	BP2618-1	1	1	Liters	LT

User tip:

The default view on inventory pages is alphabetical order. A "starts with" filter can be applied to narrow the list of chemical descriptions by first letter.

Items with expiration dates will be highlighted in <mark>yellow</mark>, expired items will be highlighted in red, and federally-regulated Appendix A chemicals will be highlighted in blue.

Drag <mark>a colu</mark>	mn header and	drop it here to group I	by that column									
Share All Unshare All Shared	Inventory #	PI	Chemical Description	Multiple Ingredients?	Cas #	Hazard Statement(s)	Vendor	Catalog #	# of Units	Qty per Unit	Volume / Size	Expiration Date
•	T	T	T	T	T			T	T		T	T
	Bar Code	PIName	Chloroform, ACS, 99.8+%	No	67-66-3		Fisher Scientific	AA40974K7	1	4	Liters	04-27-2026
	Bar Code	PI Name	Chloroform, ACS, 99.8+%	No	67-66-3		Fisher Scientific	AA40974K7	1	4	Liters	04-27-2026
	Bar Code	PI Name	Dimethyl Sulfoxide, Anhydrous	No	67-68-5	۵	Sigma-Aldrich Inc.	276855-1L	1	1	Liters	
	Bar Code	PI Name	BENZENE	No	71-43-2	♦ 🖸	Sigma-Aldrich Inc.	270709-1L	ĩ	1	Liters	
	Bar Code	PI Name	Tetrahydrofuran,anhydrous stabilized,99.9%	No	109-99-9	*	Sigma-Aldrich Inc.	401757-1L	1	1	Liters	01-13-2023
	Bar Code	PI Name	Chloroform, stabilized with ethanol	No	67-66-3		Alfa Aesar	40974	1	4	Liters	
	Bar Code	PI Name	N,N- Dimethylformamide,ACS,99.8+%	No	68-12-2	♦ 1)	Alfa Aesar	39117	1	4	Liters	

- On the Inventory window there are many organization options:
 - Columns can be arranged by drag-and-drop and saved on the welcome screen.
 - Searchable filters at the top of the columns.
- From the Inventory window you have many options:
 - <u>View Current Inventory</u> (up to 500 items on a single page)
 - [+Add] Chemical add to your chemical inventory
 - [Remove] dispose of a chemical in your inventory
 - [Transfer] transfer a chemical to another location
 - Search/sort by column:
 - Bar Code Number Inventory #
 - Chemical Name "Chemical Description" look-up
 - Items Received/Ordered on (Date)
 - Lab; Storage Location; Sub-storage Location; Comments; Lot Number
 - <u>View Disposed Inventory</u> (up to 500 items on a single page)
 - You can recall items found again in your laboratory [Activate] button (top left)
 - Items Received/Ordered on (Date)
 - Show Chemicals with column search/sort:
 - Bar Code Number Inventory #
 - Chemical Name "Chemical Description" look-up
 - Lab; Storage Location; Sub-storage Location; Comments; Lot Number



+ Add	•	/ Edit	-		PI:	PI Name	*	Inventory
-------	---	--------	---	--	-----	---------	---	-----------



3 - Adding to your inventory

 After you have placed the bar code sticker received from UCF EHS on the bottle, Click the [+Add] button or "Quick Add" pull down at the top left.

+ Add	• 🖌 Edit	- 🛞 Rem	Nove TRemove Filters	PI:	PI Name	• Inven	tory: Curren	t Inventory	•
Quic	k Add	or Inve	ntory 🔍 🗙						
Drag a c	olumn header	and drop it	here to group by that	column					
Drag a c	olumn header	and drop it	here to group by that	column					
Drag a c Share All	olumn header	and drop it	here to group by that	column					

Unless your group has received previous permission, all Inventory # (bar codes) are
generated by UCF EHS.Reference: UCF Chemical Inventory Policy, FSP 2012 EHS0005

3a – "Quick Add"

The "Quick Add Chemical Inventory" window will appear.

	ld Chemical Inventory				Save	Cancel	O Help
"Researcher	PI Name	Ŧ	*Permit #	C-LLLLFFF permit	•		
*Chemical Description				Select Chemical)		
	O Found in Catalog	Not in Catalog					
Cas #							
	*# of Units	*Qty per Unit	*Volume	/ Size			
Location			*				
Storage Location			•				
Sub-Storage Location		Y					
Storage Device		-					
Vendor		•					
*Receipt Date	1/26/2023						
Save Cancel							

If adding a new record or changing the chemical, click the **[Select Chemical]** button to open the [Select Chemical] search box.

3 - Searching for a chemical to add

- This is a pop-up window on top of the "Quick Add Chemical Inventory"
- Radio buttons along the top allow search by:
 - Chemical Description
 - Catalog or CAS Number
 - PI's Personal Catalog (Inventory already held by the PI)

elect Chemical	0								⊗ Not Found In Catalog	>
● Search By C	hemical Description			Search O S	earch By Ca	talog or CAS #		Search O Show PI's	s Personal Catalog	ons +
↓ Primary Name	• × Themical Des	cription ×								
	Y CAS #	Chemical #	Synonym 🕇	T	Primary Name	Y Vendor Name	Ŧ	Catalog #	Expiration Period (months)	T
										1

User tips:

Searching by CAS# is possibly the most efficient search. Searches by Chemical Description will list all chemicals that include a chemical name.

Catalog Number searches will yield few results; that does not necessarily indicate a chemical is not in the catalog. Catalog selections should be made when possible.

3 - Searching for a chemical to add

The search pop up box will display chemicals (as well as vendors and product/catalog numbers) already in the database catalog. Use the Search and Filter Options at the top of each column to find the chemical to add to the PI's inventory.

Example: A <u>4L</u> bottle of <u>acetone</u>								
from <u>Fisher</u> .	Select Chemical							Not Found In Catalog
The CAS # is <u>67-64-1</u> .	O Search By Che	mical Description		Search	● Search By Catalo	g or CAS # 67-64-1	Search O Show PI's	Personal Catalog Options -
This number must be	+ Primary Name	Chemical Desc	ription ×					
entered with the dashes.	Ţ	CAS#	Chemical #	▼ Synonym †	Primary T Name	Vendor Name	▼ Catalog # ▼	Expiration Period Y (months)
	A Primary Name: N	o						^
Enter the criteria and	Chemical De	escription: ACETONE						
click [Search].	Select	67-64-1	8491	10% CELLULOSE TRIACETATE				
enen [Seuren].	Select	67-64-1	8491	100% Acetone				
	Select	67-64-1	8491	2-PROPANONE				
Click the	- Select	67-64-1	8491	ACETONE				
	Select	67-64-1	8491	Acetone - Chromasolv Plus for HPLC				
[Select] button	Select	67-64-1	8491	ACETONE ACS GRADE				
beside the	Select	67 - 64-1	8491	Acetone ACS reagent, >99.5%				
al and all you	Select	67-64-1	8491	ACETONE CERTIFIED ACS				
chemical you	Select	67-64-1	8491	acetone chromsolv				
need to add.	Select	67 <mark>-64-</mark> 1	8491	Acetone NF				~ ~

If your item is not found, select the [Not Found in Catalog] button and enter manually.

3a – "Quick Add" Continuation

The Chemical Description and CAS# (if available) will fill in with your selection.

To continue the "Quick Add Chemical Inventory" enter:

- # of Units, Qty per Unit, Volume/Size, and Physical State
- Vendor, Locations & Storage Information fields. Use dropdowns where available to make selections.

EHSA Inventory / Chemical Inventory / Qui	ck Add Chemical Inventory					Save Cancel Help
*Researcher	PI Name		*Permit #	C-LLLLFFF permit	•	
*Chemical Description	ACETONE			Select Chemic	al	
Cas #	Found in Catalog F7 64 1	○ Not in Catalog			_	
	til of Units	totu nor linit	1) follow	o / Sizo		
				₹ / Size		
	*Physical State Re	port Denominator				
*Location			•			
Storage Locatio	n		•			
Sub-Storage Location						
Storage Device		•				
Vendor		•				
*Receipt Date	1/26/2023					
Save C	ancel					v

Click [Save] button to save the record, or click [Cancel] to discard the entry.

3a – "Quick Add" Completion

After entry of the item and location description, a pop up box will ask for the Inventory #.

Use this box to enter the 7-digit bar code which was affixed to the container.

can or Type	Inventory #	×
Inventory #	Scan or Type Barcode # then Press Enter	
_		

Click [Continue] button to save the record, or click [Cancel] to discard the entry.

3b - Adding an item, "Not In Catalog"

Fields highlighted in yellow must be filled in:

- Chemical Name (no abbreviations)
- CAS #
- Total # of Units should be 1
- Quantity per Unit (container size)
- Volume/Size (unit of measure)
- Physical state

- Location
- Storage Device (type of container)
- Receipt Date
- Vendor
- Vendor Catalog Number

EHSA Inventory / Chemic	al Inventory / Quick Ad	d Chemical Inventory				Save Cancel O Help
	*Researcher	PI Name	×	*Permit #	C-LLLLFFF permit •	
	*Chemical Description				Select Chemical	
	Cac #	Found in Catalog	Not in Catalog			
	Gas #		112. s. 111.		-	
		+# of Units		-volume /	size	
		*Physical State	Report Denominator			
	*Location		v			
	Storage Location		•			
When you have	Sub-Storage Location		•			
filled out the	Storage Device		•			
required fields,	*Vendor		*			
click the [Save]	*Receipt Date	1/26/2023				
button.	Save Cancel					

3c - Adding multiple items or items with multiple ingredients

If you need to add:

- Multiple items
 - same CAS#, vendor and catalog number i.e. a case
 - Per the UCF Chemical Inventory Policy, each container must have a bar code affixed
- OR
- **Items with multiple ingredients** (e.g. etchants, cleaning solutions, analytical standards)

Please contact the Chemical Safety Officer (Dr. Sandra Hick, 407-823-3307, Sandra.Hick@ucf.edu) to schedule a training session.

4 - Disposing of inventory items

Items consumed or contaminated must be marked as disposed in the database once they have left the laboratory.

The two most efficient ways to dispose of items are:

- <u>Single item</u> look up the item by unique "Inventory #" (bar code)
- <u>Several items from the same location</u> filter at the top of a column by room, chemical name, etc.

EHSA Inven	ntory / Chemical Ir	iventory										Help
+ Add -	Edit • © Remove	PI: PI Name	▼ Inventory	Current Inve	entory •				Iter	CRea Item(s) r n(s) marked in F Item(s) marked	Transfer (quest from Chemical E narked in Yellow wil ted are Expiring or ed in BLUE are App	Dptions - Exchange II Expire Expired pendix A
Drag a column h	eader and drop it here	e to group by that column Chemical Description	Multiple Ingredients?	Cas #	Hazard Statement(s)	Vendor	Catalog #	# of Units	Qty per Unit	Volume / Size	Volume / Size	Phys
T Bar Code	PI Name	ANHYDROL	No	64-17-5		AAPER Alcohol	T	1	5	Gallons	GL	Liqui
Bar Code	PI Name	REAGENT ALCOHOL 100% ETHANOL	No	64-17-5	� � � � ■	Azer Scientific	ES631	1	5	G Liquid	G	Liqui
Bar Code	PI Name	ACETONE	No	67-64-1		Fisher Scientific		1	19	Liters	LT	Liqui

4a - Disposing of a single item

To remove/dispose of a single inventory item:

Use the "Inventory #" column search field to look up a bar code number.

- 1. Click anywhere on the row to highlight (red) the container of interest.
- 2. Click the **[Remove]** button in the upper left of the screen.

EHSA Inven	tory / Chemical Ir	nventc, y										e Help
+ Add - 🗸	Edit Remove	TRemove Filters PI: PI N	ame	• Inve	ntory: Current Inventory	•					₽ Transfer	Options -
Search Synony	m, CAS or Inventory	Q 🗶								S	Request from Chemica	al Exchange
Drag a column he	eader and drop it here	e to group by that column)	Item(ttem(s) marked Item(s) ma	s) marked in <u>Yellow</u> n <mark>Red</mark> are Expiring o rrked in BLUE are A	will Expire or Expired ppendix A
Inventory #	PI	Chemical Description	Multiple Ingredients?	Cas #	Hazard Statement(s)	Vendor	Catalog #	# of Units	Qty per Unit	Volume / Size	Volume / Size	Physica
125 7 7	T	T		T		T	T	T	\$			
1 Bar Code	A PI Name	REAGENT ALCOHOL 100% ETHANOL	No	64-17-5	\$\$\$	Azer Scientific	ES631	1	5	G Liquid	G	Liquid

- 3. A "Confirm Removal" pop-up window will appear.
- 4. Choose the **Reason for Removal** from the dropdown:
 - a. Data Entry Error;
 - b. Used; or
 - c. Waste
- 5. Click **[Remove]** to remove the inventory item or [Cancel] to go back to the inventory list.

Items selected for removal	: 1
Reason For Removal	
Are you sure you want to items as Removed?	o mark the selected inventory

4b - Disposing of more than one item

Use a filter or sort to find the items for removal.

- 1. From the pull down box, select the room containing the items.
- 2. Click the **[Remove]** button in the upper left of the screen.
- 3. In the column "Select for Removal," check the boxes for the inventory items.

🖶 EHSA Inv	ventory / Chemical Ir	nventory									O Help
+ Add -	✓ Edit - ⊗ Remove	T Remove Filt	PI: PI Name	• Inve	entory: Cur	ent Inventory				₽ Transfer	Options -
Search Synd	onym, CAS or Inventory	Q 🗶							C Requ	est from Chemic	al Exchange
Drag a column	n header and drop it her	e to group by th	at column					ltem(s) i Ite	Item(s) ma marked in <mark>Re</mark> em(s) marked	arked in <mark>Yellow</mark> d are Expiring in BLUE are A	will Expire or Expired opendix A
Inventory #	PI		Chemical Description	Multiple	Select For Removal	Confirm Removal	Catalog #	# of Units	Qty per	Volume /	Volume
T		T	T	T		Items selected for removal 3 Reason For Removal		T	T	T	
	1		ACETONE	No				1	19	Liters	LT
Bar	PI Namo		REAGENT ALCOHOL 100% ETHANOL	No		Are you sure you want to mark the selected hyentor items as Removed?	ES631	1	5	G Liquid	G
Code	Finance		ANHYDROL	No		Remove Cancel Select All		1	5	Gallons	GL
			AGAROSE 3:1	No		9012-36-6 VWR Internal	onal E776	1	100	Grams	G

- 4. A "Confirm Removal" pop-up window will appear. Confirm that the number of items is correct.
- 5. Choose the **Reason for Removal** from the dropdown list:
 - a. Data Entry Error; Used; or Waste are most appropriate
- 6. Click [Remove] to remove the inventory item or [Cancel] to go back to the inventory list.

5 - Transferring inventory

To transfer a single inventory item, from one PI or location to another, select the PI you want to transfer **from** in the PI list.

EHS/	A Inventory / Che	mical Inve	They Box Labo	da.					
+ 400	• / Ent • @	Anothine	Chernical Inventorio	ports - Pt;	****Show All Pis****		Inventory:	Curren	it Inventory •
Search	h By Synonym		Apply Filter Clear I		""Show Al Pls""	-			
Shared	Inventory Control		Р.	1	Aabeet, Wanda Abbeltion, Martha	- 1	Description		Vandor
				۲	Abbotts, Abigail Abdatson, Ralph			۲	
	0844624	Пелоче	Abbelton, Marth	10	Asemathy, Scott Adams, James				Bio-Rad Laboratorie
0	0842271	Assova	Abbotts, Abigai			GLUTAM	IC ACID AMIDE		Sigma-Aldrich
	0837173	Remove	Abbotts, Abigai	I		LITHUM	ACETATE		Sigma-Aldrich

If you need to transfer to a **PI not listed**, please contact UCF EHS.

5 - Transferring inventory

Once you have an individual PI's inventory on screen, click the [Transfer] button.

EHSA In	wentory / Ch	emical Inventory											O Help
+ Add -	🖍 Edit 💌	S Remove 7 Remo	ve Filters PI: PI N	lame	• Inve	entory: Current In	ventory	•				≓ Tra	nsfer Options -
Search Syr	nonym, CAS or	Inventory Q	by that column								Item(s) mar Item(C Request from tem(s) marked in ked in Red are Ex s) marked in BLUE	Vernical Exchange Yellow will Expire piring or Expired are Appendix A
Share All Unshare All Shared	Inventory #	PI	Chemical Description		Multiple Ingredients?	Cas #	Hazard Statement(s)	Vendor	Catalog # †	# of Units	Qty per Unit	Volume / Size	Volume / Size
	T	T	lisopr	× ×	T	T		T			\$		
	Bar Code	PI Name	ISOPROPANOL		No	67-63-0		Fisher Scientific	BP2618-1	1	1	Liters	LT

The Chemical Transfer screen will open in a pop up window.

5 - Transferring inventory – a shopping cart

On the Chemical Transfer Screen, select:

- 1. Receiving PI from the dropdown list to transfer to a different PI.
- 2. Receiving Lab from the dropdown to transfer to a different lab.
 - a. Once a lab is chosen, the "Storage Location" list in the room becomes available. The "Sub-Storage Location" field is free-type.

Permit	C-L	vame LLLFFF pe	ermit	Storag Sub-St Locatio	e Location orage on	n.	v v		If you need to
Select Cher Transfer	nical to					₩ Transfer All	₽ Remove All	Transferred Chemicals	transfer to a
Inventory #	Location		Chemical Inventory	CAS #	Storage	Location	Chemicals To Transfer CAS #	Inventory #	laboratory no
0063848	1001:366	Transfer	ETHANOL 200 PROOF	64-17-5		^		Ŷ	listed or a
0056413	1001:125	Transfer	REAGENT ALCOHOL 100% ETHANOL	64-17-5					different PI,
0056414	1001:125	Transfer	REAGENT ALCOHOL 100% ETHANOL	64-17-5					please contact
0056416	1001:125	Trunsfer	REAGENT ALCOHOL 100% ETHANOL	64-17-5					UCF EHS.
0063780	1001:366	Transfer	REAGENT ALCOHOL 100% ETHANOL	64-17-5					
<	4004-000		REAGENT ALCOHOL 100%	0147 C		~			
H H 1	F H 3	500 🗸 items p	er page		1	- 11 of 11 items			

- 3. Click the **[Transfer]** button for each item to be transferred. This will move the items to the "Chemicals to Transfer" side of the screen.
- 4. To complete, confirm bar code numbers and chemical names.
- 5. Then, click the **[Transfer]** button in the lower left corner of the screen.

5 - Transferring inventory to a new room or another PI

If you need to transfer:

- Containers to a new lab not affiliated with the PI OR
- Inventory items to another PI

Please contact the Chemical Safety Officer. (Dr. Sandra Hick, 407-823-3307, Sandra.Hick@ucf.edu)

More Information

• To request bar codes (inventory #) or for more information about EHSA chemical inventory, contact EHS:

Dr. Sandra Hick Chemical Safety Officer (407) 823-3307 Sandra.Hick@ucf.edu