BioRAFT ChemTracker Module User's Guide

Prepared by BioRAFT Professional Services and University of Pennsylvania EHRS

Log-in to ChemTracker with your Pennkey at https://penn.bioraft.com

Table of Contents

BioRAFT ChemTracker Module Introduction	1
Contact the Chemical Inventory Team	1
What Must Be Tracked in the Inventory?	2
Hazardous Chemicals	2
Tracking Hazardous Gases	3
Exempt Chemicals	4
Viewing Your Chemical Inventory	5
All containers	5
What inventory is viewable?	6
Totals	7
Add New Inventory	8
Chemical Look-Up Chemicals Not Found in Database	
Specifying Amount	10
Container Status	10
Unique Container ID (Barcode Number)	11
Adding Additional Details	12
Disposing of Chemical Inventory	13
Disposing of a Single Container	13
Disposing of Multiple Containers (and Bulk Edit)	14
Requesting FREE Chemicals from EHRS Surplus Chemicals How to Contribute your Unwanted Chemicals to the EHRS Surplus Inventory	
Managing High-Turnover Containers (not available in all buildings)	17
Annendix A: Gas Cylinders	19

BioRAFT ChemTracker Module Introduction

The BioRAFT ChemTracker module provides a method for tracking chemical inventory with connection to a central database.

All inventory records entered prior to Summer 2019 were migrated into ChemTracker from the CISProLive Chemical Inventory Program.

Contact the Chemical Inventory Team

EHRS Chemical Inventory Team cheminv@ehrs.upenn.edu

EHRS Customer Service Links:

General Information about Penn's Chemical Inventory Program: https://ehrs.upenn.edu/health-safety/lab-safety/chemical-inventory-program

Barcode Sticker Requests (Free):

https://ehrs.upenn.edu/health-safety/health-safety-forms/warning-sign-and-label-request-form

Problem Container Form (For chemicals not found in database):

https://ehrs.upenn.edu/policies-resources/chemical-inventory-problem-container-request-form

What Must Be Tracked in the Inventory?

Hazardous Chemicals

You must track inventory of any research chemicals that are **physical**, **environmental**, **or health hazards**. This includes all solvents and other flammables, reactive substances, corrosives, irritants, toxics, etc.



The *minimum* that must be tracked for each container in your inventory

- Chemical identity
- Container size
- o Building and Room number

Examples of the new GHS hazard pictograms and the older CHIP hazard pictograms are shown below.

If a manufacturer has labeled a chemical container with one or more of these symbols, the chemical <u>must</u> be tracked in your inventory.



For information about what these pictograms mean, see the chemical's SDS, or https://www.osha.gov/Publications/HazComm_QuickCard_Pictogram.html

Tracking Hazardous Gases

ALL HAZARDOUS GASES must be tracked in your inventory.

See Appendix A for information about cylinder sizes.

Hazardous Gases Include any gas that is:

- Flammable
- Corrosive
- Toxic
- Oxidizing





Common examples of hazardous gases include:

Ammonia Fluorine
Boron trichloride Hydrogen (> 5%)
Carbon monoxide Hydrogen fluoride
Chlorine Methane
Dichlorosilane Nitric oxide

Oxygen (>20 %) Propane Silane Sulfur dioxide

Inert (non-hazardous) gases do not need to be tracked.

Examples of inert gases include:



Exempt Chemicals

Below are some examples of containers that **do not** need to be tracked in the inventory system:

- Chemicals in small quantity that are sold as part of a kit
- **Stock solutions** and other mixtures of chemicals that were prepared in your lab and/or transferred into a new container (such as **wash bottles** of solvents)
- Household products such as Clorox, Windex, baking soda, paints, etc.
- Products with **no chemical hazards**, such as:

Growth media Amino acids Glass beads, sand, etc.

Agar/Agarose Sodium chloride Glucose, sucrose, starch, etc.







These are just a few examples. If you're not sure whether a material is hazardous, check if the container has a hazard warning on the label. If you are still unsure, inquire at cheminv@ehrs.upenn.edu.

Remember: You are welcome to track non-hazardous materials in your inventory. Contact EHRS or use the <u>Problem Container Form</u> on the EHRS website if you cannot find the product in ChemTracker.

Viewing Your Chemical Inventory

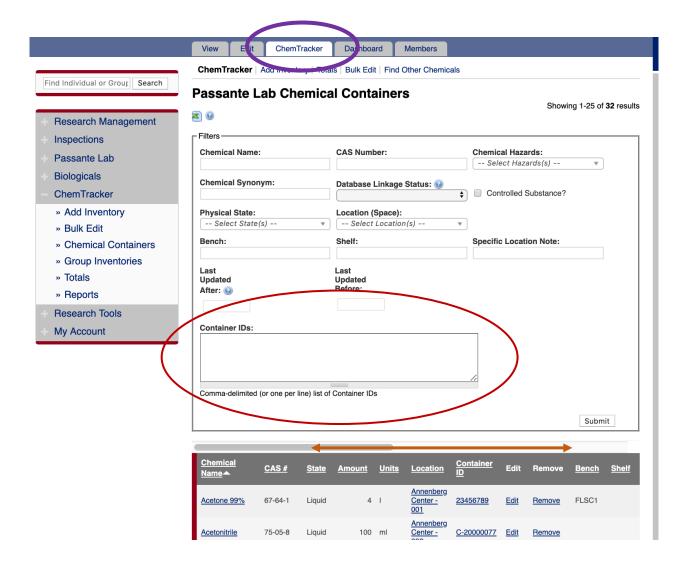
All containers

From the BioRAFT homepage, expand the left side menu to view information relevant to your lab.

Click the "ChemTracker" tab to view your lab's chemical inventory.

This page displays every chemical container in your lab's inventory.

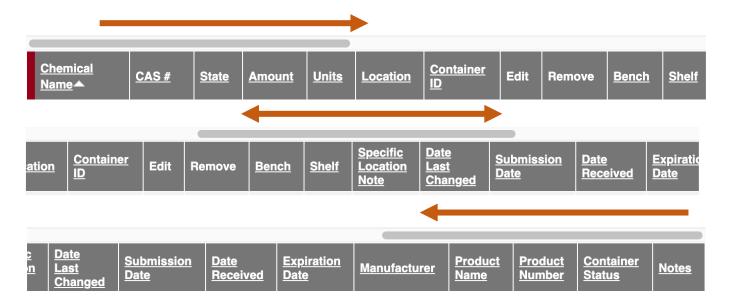
You can search for a specific record by clicking in Container ID and scanning or typing a barcode number.



Notice that you can scroll back and forth to view more headings for your list of containers.

You can view a subset of your containers by using the filters at the top of the ChemTracker page, and you can sort the results by clicking on any heading title that is underlined.





What inventory is viewable?

You will be able to see all chemical containers within **your lab's** inventory. You will not be able to search for chemicals in other lab's inventories.

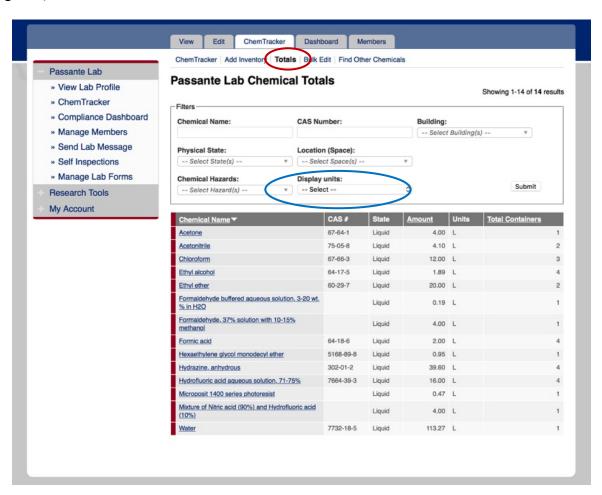
If you want to find out if another chemical is available on campus, see the section in this manual "Requesting FREE Chemicals from EHRS Surplus Chemicals". You can also contact the chemical inventory team (cheminy@ehrs.upenn.edu) to ask for our assistance locating something.

Totals

Click on the "Totals" link to view the aggregate amount of each chemical in your lab's inventory.

Notice that the total number of containers of each chemical is shown on the right side.

Hint: The "Display Units" dropdown allows you to change the units for the table (i.e., display in grams).



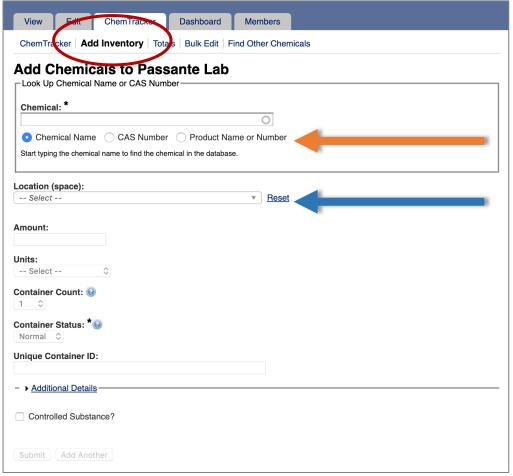
Add New Inventory

Chemical Look-Up

To add new inventory, click "Add Inventory" from the ChemTracker page.

Select your **search criteria** (Chemical Name, CAS Number, or Product Name or Number) *The default is "Chemical Name", but EHRS recommends a CAS Number or Product Number search.*

Start typing the chemical name, CAS number or Product Number of the chemical you are adding. A list of options will appear based on your search. If there are no results, see the section of this manual regarding *chemicals not found in database*.

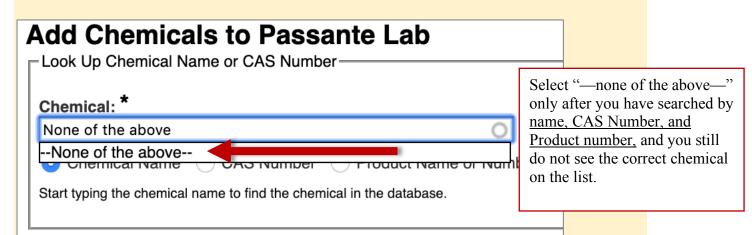


Select the chemical from the dropdown list, then select the room number (from the "Location (space)" dropdown) where this container will be stored. If the space you are looking for is not listed, please contact cheminv@ehrs.upenn.edu to get your lab added to the space.

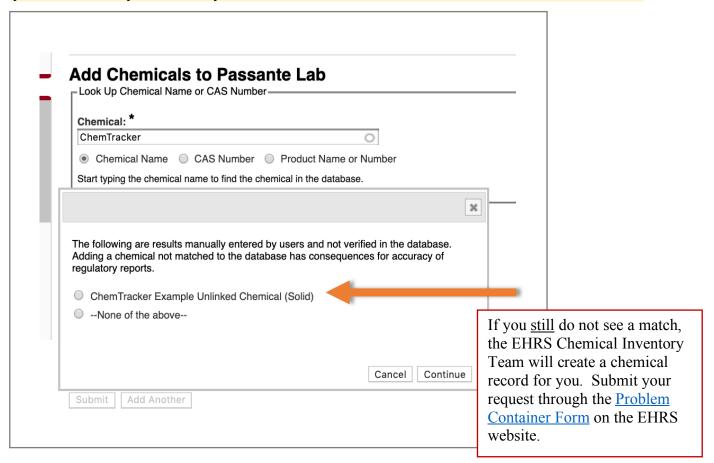
Note: Specific-location information (bench, cabinet, FLSC, refrigerator, etc) is added later.

Chemicals Not Found in Database

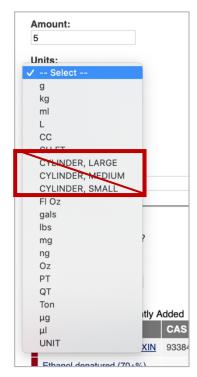
If the database does not have the chemical you are searching for, the dropdown will show "None of the above."



When you choose "—none of the above—", ChemTracker may suggest unlinked chemical records that match your search. If one of these looks correct, select it and continue adding your container to your inventory.



Specifying Amount



The size of the container must be specified.

Enter the amount, then select the units from the dropdown.

When adding a gas to your inventory, you must add the amount as a specific volume.

Do NOT use the unit designations cylinder large, cylinder medium, cylinder small.

Consult Appendix A in this manual for common gas cylinder volumes. If you do not see your cylinder in Appendix A, contact the Chemical Inventory Team to ask what amount and unit to use.



Container Status

Attention! As of August 2019, the ability to view other lab's inventory records has been disabled. No containers will be visible to other lab's regardless of the container status.

Normal

This is the default container status. This designation means that other lab groups will be able to view that your lab has this chemical and the container location; you are NOT required to share the chemical with another lab.

Hidden

By designating a container "Hidden," the container will not appear in other lab's inventory searches.

Surplus

Designating a container "Surplus" denotes that it is available for anyone to use.

Unique Container ID (Barcode Number)

All containers of hazardous materials are required to be labeled with EHRS-provided barcode labels.

To request additional quantities of barcode labels, use the form on the EHRS website:

Warning Sign and Label Request Form.

(Inventory Barcode requests are at the bottom of the form)

Click in the "Unique Container ID" field and type or scan a barcode from the provided labels.

If this field is left blank, the system auto-generates a unique ID number, which will not correspond to the barcode label on the container and will make it difficult to identify the container in the future. If you notice this has occurred, you can edit the barcode number after the container is created.



Hint: If you select a "Container Count" greater than 1, you only need to scan 1 EHRS-provided barcode. The system will automatically generate the correct number of sequential "Container IDs."

Look out for this!

Some barcode scanners are programmed to immediately "enter" after they scan. If yours does this, your container will be automatically submitted to the inventory when you scan the barcode. You'll know this happens if the screen jumps to the "Chemical Inventory Recently Added" table at the bottom of the page.

If you still want to add additional details such as location specifics, expiration dates, or notes, just click the "edit" link and continue editing the container record.

If you do not need to enter additional details, your container entry is complete.



(Chemical Inventory Recently Added	CAS # State Amount Location Container ID Edit Remove						
	Chemical Name	CAS#	State	Amount	Location	Container ID	Edit	Remove
	Acetone 99%	67-64-1	Liquid	41	Annenberg Center - 001	23456789	Edit	Remove

Adding Additional Details

Assigning location within room

More detailed location information (refrigerators, benches, shelves, etc.) can be added in the "Additional Details" section. (EHRS does not require you to specify locations below the room-level)

If you *want* to specify sub-locations take note: All additional location information should be added to the "**Bench**" section.

Adding location information to the other fields will lead to difficulties in searching for inventory by location.

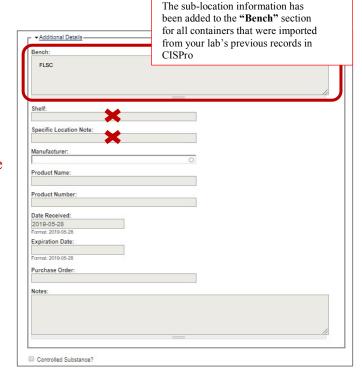
Look out for this!

The "Bench" field is free-form text; therefore, if the name of a location is entered differently for different locations, it will create a new sub-location name.

There is no alert to tell you whether you are entering a new sub-location name, and no option to select from existing sub-locations within the room.

Inconsistencies in sub-location names can lead to difficulties in locating containers and in EHRS reporting.

To help avoid errors, common sub-location names have been standardized by EHRS. Use these abbreviations for chemical storage cabinets.



Flammable Cabinet → FLSC

Acid Cabinet → AC

Base Cabinet → BC

Tip: If your lab has multiple chemical storage cabinets of the same type or any sub-location names that are more specific or complex, you should create a "**cheat sheet**" for lab members to reference when entering container information.

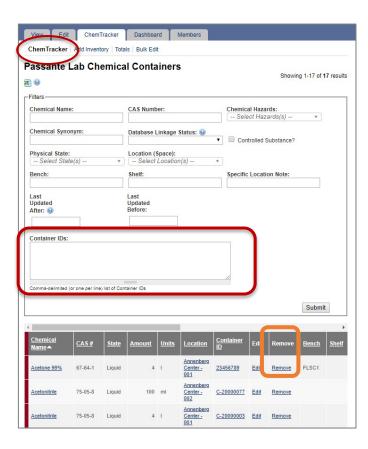
Don't forget to label your cabinets and shelves with the names, too!



Disposing of Chemical Inventory **Disposing of a Single Container**

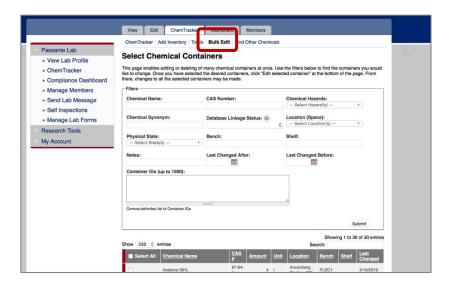
Select "ChemTracker" and enter the Container ID to find the chemical of interest and click Submit.

Then click "Remove", and click "yes" to confirm.



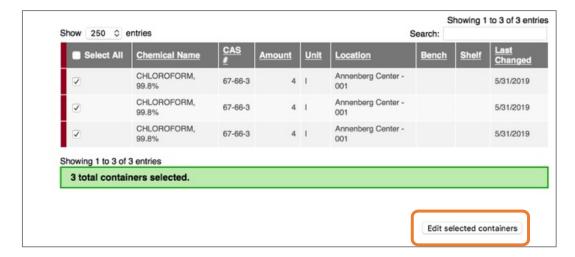
Disposing of Multiple Containers (and Bulk Edit)

The bulk edit function is valuable for editing or deleting many records all together. Click "Bulk Edit" from your lab's ChemTracker menu.

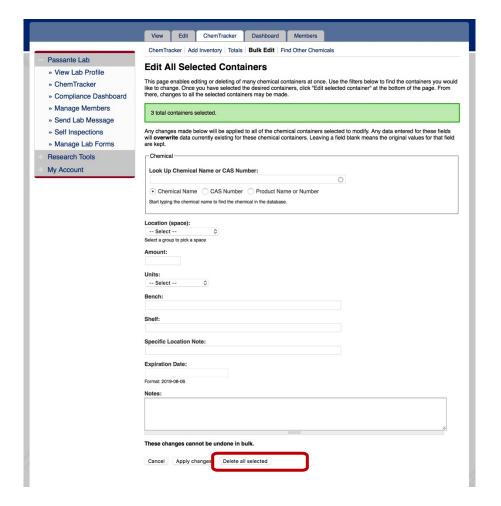


You can scan multiple barcodes into the container ID box (one per line) or use the filters to search for the containers you want to remove or edit.

Click "Edit selected containers" in the bottom right corner. From there, indicate the changes you would like to make.



To dispose of the containers, click "Delete all selected".



Once a container is disposed, the barcode is also disposed and cannot be used again.

Bulk edits to Location (space), Amounts, Units and Bench can also be made in Bulk Edit.

Once the changes are complete, click "Apply changes" and follow the prompts to complete.

Any changes made here will be applied to all the containers and overwrite existing data for those containers (such as replacing the existing notes). These changes cannot be bulk undone.

Requesting FREE Chemicals from EHRS Surplus Chemicals

(Feature available late 2019)

When you search for a chemical in "Find Other Chemicals", containers in the EHRS SURPLUS CHEMICALS inventory are available for you to request, free of charge!

Request containers by emailing: <u>Cheminv@ehrs.upenn.edu</u>

The following information must be provided in your message:

- Chemical Name
- Barcode Number
- Container size
- Name of person making request
- P.I.'s name and email address
- The name of the ChemTracker Location where you will be storing the chemical: Building Name & Room Number

EHRS will change the container's location and owner in ChemTracker and deliver the chemical to the specified room.

Requests will generally be processed within 1 week.

Notice: EHRS will contact the PI of the lab making the request. The PI must authorize the transfer of the chemical before we can process your order.

How to Contribute your Unwanted Chemicals to the EHRS Surplus Inventory

To dispose of commercial chemicals that are in their original container (labeled and in good condition) AND are not expired:

- Mark the container as "disposed" in ChemTracker
- Place the upright container in the secondary containment bin in your lab's satellite waste accumulation area.
- Label the container with a waste tag and request an EHRS chemical waste pick-up.

EHRS will remove the container during your waste pick-up. If they determine it is suitable for redistribution, they will add the container to their inventory for EHRS SURPLUS CHEMICALS.

Managing High-Turnover Containers (not available in all buildings)

THIS METHOD MAY NOT BE USED FOR FLAMMABLE LIQUIDS IN BIOMEDICAL LABORATORY BUILDINGS. Those buildings are required to track individual containers of all flammable liquids!

Some labs have a high turnover of certain commodity chemicals, especially solvents. If you keep a stock of these chemicals—and the quantity is consistent—you may wish to have a *representative* inventory of those containers.

Example: At any time, you have a maximum of five 4-liter bottles of acetone in your flammable liquids storage cabinet. You empty these at a rate of 1 bottle every week or two, and you don't want to keep entering them into ChemTracker and then marking them as disposed.



Rather than adding each container to your inventory as you receive it and removing when empty:

- EHRS would create five *representative* containers in your ChemTracker inventory. (Starting with the letters "HT")
- The information and high-turnover barcodes would be on a *sheet of paper* instead of on the bottles.
- The paper is attached to the cabinet where the bottles are stored.

Example:

Material	Package information	Size	Barcode		
Acetone [67-64-1]	Sigma-Adrich Chromsolv for	4 Liter			
	HPLC >99.9%		129456750		
Acetone [67-64-1]	Sigma-Adrich Chromsolv for	4 Liter			
	HPLC >99.9%		123455759		
Acetone [67-64-1]	Sigma-Adrich Chromsolv for	4 Liter			
	HPLC >99.9%		123466789		
Acetone [67-64-1]	Sigma-Adrich Chromsolv for	4 Liter			
	HPLC >99.9%		123456789		
Acetone [67-64-1]	Sigma-Adrich Chromsolv for	4 Liter			
	HPLC >99.9%		Five unique bareade labela		
Five unique barcode label					

Contact the Chemical Inventory Team (cheminv@ehrs.upenn.edu) to create container records for these materials.

Include the following information when contacting the Chemical Inventory Team about High-Turnover containers:

- 1. The name of the material
- 2. The volume/amount of a single container
- 3. The number of containers of the above stated size
- 4. Any additional label information you would like included (for example: grade, vendor, etc)
- 5. The location where these materials will be stored.

Contact EHRS if you need us to make any changes to your high-turnover inventory.

High-turnover inventories will be checked by Inventory Team members periodically to ensure accuracy.

Appendix A: Gas Cylinders

Reference the following table to enter the volumes (in liters) or weights of your hazardous gases.

Gas	Cylinder Description	Cylinder Size	Amount	Units
Oxygen Gas (greater than 21%)		Cylinder size 10	340	L
Oxygen Gas (greater than 21%)	9 inch x 51 inch	Cylinder Size 200	7107	L
Oxygen Gas (greater than 21%)	9 inch x 55 inch	Cylinder size 300	9543	L
Oxygen Gas (greater than 21%)	7 inch x 33 inch	Cylinder Size 80	2407	L
Oxygen Gas (greater than 21%)		Cylinder Size E	660	L
Hydrogen Gas (greater than 5%)	9 inch x 51 inch	Cylinder Size 200	5578	L
Hydrogen Gas (greater than 5%)	9 inch x 55 inch	Cylinder Size 300	7391	L
Hydrogen Gas (greater than 5%)	7 inch x 19 inch	Cylinder Size 35	878	L
Hydrogen Gas (greater than 5%)	7 inch x 33 inch	Cylinder Size 80	2095	L
Carbon Monoxide		Cylinder Size 150A	400	L
Carbon Monoxide	9 inch x 51 inch	Cylinder Size 200	5100	L
Carbon Monoxide	9 inch x 55 inch	Cylinder size 300	6800	L
Carbon Monoxide	7 inch x 33 inch	Cylinder Size 80	2000	L
Carbon Monoxide	6 inch x 23 inch	Cylinder Size 10	850	L
Methane	9 inch x 51 inch	Cylinder Size 200	7400	L
Methane	9 inch x 55 inch	Cylinder size 300	10100	L
Methane	7 inch x 19 inch	Cylinder Size 35	1132	L
Methane	7 inch x 33 inch	Cylinder Size 80	2831	L
Nitric Oxide		Cylinder Size 35	226	L
Ammonia	9 inch x 51 inch	Cylinder Size 200	5578	L
Ammonia		lecture bottle	283	L
Propane Gas	Liquefied Gas		300	G
Propane Gas	Liquefied Gas		100	G
Propane Gas	Single use Fatboy tank with standard torch fitting		16.92	OZ

If you do not see the specifications for the gas cylinder you are trying to enter, contact the Chemical Inventory Team, chemical-univariate (chemical-univariate).