

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>

Contents

BioRAFT ChemTracker Module Introduction	3
Contact the Chemical Inventory Team	3
What Must Be Tracked in the Inventory?	4
Hazardous Chemicals.....	4
Tracking Hazardous Gases	5
Exempt Chemicals	6
Viewing and Editing Your Chemical Inventory	7
All containers	7
Searching for Chemicals Outside of Your Lab	10
Totals.....	10
Adding New Inventory	12
Chemical Look-Up.....	12
Chemicals Not Found in Database.....	13
Required Fields	14
Specifying Container Size (Amount and Units)	15
Unique Container ID (6-Digit EHRS Barcode Number).....	15
Using a Barcode Scanner	16
Creating Multiple New Containers	17
Adding Additional Details	18
Disposing of Chemical Inventory	20
Disposing of a Single Container	20
Disposing of Multiple Containers (and Bulk Edit)	21
ChemTracker Barcode Scanout Sign	23
Reactivating Deleted Records	24
Managing High-Turnover Containers (not available in all buildings).....	26
Lab Moves/Reconciling Your ChemTracker Inventory	28
Reference Chart: Common Gas Cylinder Volumes/Weight	30

BioRAFT ChemTracker Module Introduction

The BioRAFT ChemTracker module provides a method for tracking chemical inventory with connection to a central database that provides easily accessible links to hazard data.

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>

Request Changes to BioRAFT Lab Locations (Spaces)

<https://ehrs.upenn.edu/health-safety/lab-safety/laboratory-inspection-program/request-changes-bioraft-lab-locations-spaces>

Chemical Inventory Tip Sheets:

See Resources for ChemTracker Users

<https://ehrs.upenn.edu/health-safety/lab-safety/chemical-inventory-program/resources-chemtracker-users>

Request Search of Chemical Inventories on Campus (Borrow Chemicals):

<https://ehrs.upenn.edu/health-safety/health-safety-forms/chemical-borrow-request>

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.

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 must be tracked in your inventory.



Older chemical containers may not be labeled according to current standards. Some containers that do not have these hazard pictures are still hazardous and must be tracked in your inventory. If you're not sure, contact cheminv@ehrs.upenn.edu to ask!



For information about what these pictograms mean, see the chemical's SDS, or see <https://www.osha.gov/sites/default/files/publications/OSHA3491QuickCardPictogram.pdf>.

Tracking Hazardous Gases

ALL HAZARDOUS GASES must be tracked in your inventory.

See Reference Chart: Common Gas Cylinder

Volumes/Weights (click [here](#) for link) for information about cylinder sizes.

Hazardous Gases Include any gas that is:

- Flammable
- Corrosive
- Toxic
- Oxidizing
- Or otherwise hazardous per the SDS



Common examples of hazardous gases include:

Ammonia
Boron trichloride
Carbon monoxide
Chlorine
Dichlorosilane

Fluorine
Hydrogen ($\geq 5\%$)
Hydrogen fluoride
Methane
Nitric oxide

Oxygen ($> 20\%$)
Propane
Silane
Sulfur-dioxide

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



Examples of inert gases include:

Argon
Carbon dioxide
Nitrogen
Helium

Exempt Chemicals

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

- Chemicals in small quantity (< 10 mL) that are sold as part of a **kit** and stored within the 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
Agar/Agarose

Amino acids
Sodium chloride

Glass beads
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.**

Viewing and Editing Your Chemical Inventory

All containers

Follow these instructions using color-coded circles to access your chemical inventory.

From the BioRAFT homepage, expand the left side menu to view information relevant to your lab. Click the “**ChemTracker**” **dropdown menu** on the left side of the BioRAFT page to view your lab's chemical inventory.



This page displays every chemical container in your lab's inventory. Upon opening the page, you are brought to the "Filters" widget where search filters are displayed on screen.

You can search for a specific record by clicking in **Container IDs** field and scanning or typing a barcode number. To access this field, click on the “**Show Advanced Filters**” button.

ChemTracker | Add Inventory | Totals | Bulk Edit | Reconciliation

View Passante Lab (inactive) Inventory

Displaying 1 - 0 of 0 results

Download ?
Filters 0
Settings
Expand

Chemical Name

CAS Number

Chemical Synonym

Spaces

Show Advanced Filters
Clear All

ChemTracker | [Add Inventory](#) | [Totals](#) | [Bulk Edit](#) | [Reconciliation](#)

View Passante Lab (inactive) Inventory

Displaying 1 - 0 of 0 results

Download (?)
Filters 0
Settings
Expand

Chemical Name	CAS Number	Chemical Synonym
Spaces	Physical State	Last Updated After (?)
Last Updated Before	Product Name	Container Expires After
Container Expires Before	Chemical Hazards	Database Linkage Status (?)
Storage Group	Bench	Shelf
Specific Location Note	Container IDs Comma-delimited (or one per line) list of Container IDs ☐ Starts With	☐ Controlled Substance
	Notes	
☐ Only Removed Containers		

Hide Advanced Filters
Clear All

You can also use the other filters on this page to view or search for a subset of your containers.

You can sort your inventory or filtered results by clicking on the **arrows** next to most of the column headings.

Chemical Name 	CAS Number 	State 	Amount 	Units 
Methylglyoxal solution	78-98-8	Liquid	25	ml
"Bromoacetic acid" as BROMOACETIC ACID, solid	79-08-3	Solid	100	g
((4R,5R)-(+)-O-[1-BENZYL- 0.1G	880262-16-8	Solid	100	mg

To edit a record, click on the “Edit” link:

Chemical Name ↓	CAS Number ↑	State ↑	Amount ↑	Units ↑	Location ↑	Container ID ↑	Edit	Remove
Methylglyoxal solution	78-98-8	Liquid	25	ml	Smilow Center - TRC09-176A	183736	Edit	Remove

To find the “Edit” link, you will need to use the scrollbar at the bottom of the inventory table, near the page select numbers, to scroll to view additional headings.

« first < previous 1 2 3 4 5 6 7 8 9 ... next > last »

Chemical Name▲	CAS #	State	Amount	Units	Location	Container ID	Edit	Remove	Bench	Shelf
----------------	-------	-------	--------	-------	----------	--------------	------	--------	-------	-------

Container ID	Edit	Remove	Bench	Shelf	Specific Location Note	Date Last Changed	Submission Date	Date Received	Expiration Date
--------------	------	--------	-------	-------	------------------------	-------------------	-----------------	---------------	-----------------

Clicking on the “Settings” widget at the top right of your inventory will **allow you to show/hide each column** by checking/unchecking the box to the left of the column header. You can also click and drag on the **8 dots** to the right of the column header to **reorder the columns**. A “⊗” symbol will replace your cursor, but dragging will function as designed.

View Passante Lab (inactive) Inventory

Displaying 1 - 1 of 1 results

Download (?)
Filters 0
Settings
Expand

You can uncheck columns to hide them, and drag to rearrange.

✓ Chemical Name	✓ CAS Number	✓ State	✓ Amount	✓ Unit
Acemetacin	53164-05-9	Solid	2	l

For a **full screen view** of your chemical inventory, click “Expand” at the top right of your inventory:

View Passante Lab (inactive) Inventory

Displaying 1 - 0 of 0 results

Download (?)
Filters 0
Settings
Expand

To **export** your data outside of the system, click “Download” at the top left of your inventory. Note that changes to inventory can only be made inside of ChemTracker and cannot be submitted via spreadsheet export/import unless explicitly prompted by the Chemical Inventory Team.

View Passante Lab (inactive) Inventory

Displaying 1 - 0 of 0 results

Download (?)
Filters 0
Settings
Expand

Searching for Chemicals Outside of Your Lab

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 labs' inventories. The EHRS Chemical Inventory Team can help you locate chemicals in other labs across campus.

Search “Chemical Borrow Request” on the [EHRS website](#) to find our Chemical Borrow Request webform (also linked [here](#)) to submit your search request. Remember that all chemical sharing is voluntary and requires the permission of the lab that owns the chemical as well as the approval of the PI for the lab that wishes to borrow or adopt the chemical. If you adopt the chemical into your lab from another lab, be sure that they remove the chemical from their inventory and that you add the chemical to yours.

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.

Tip: The **“Display Units” dropdown** allows you to change the units for the table (i.e., display in grams).

ChemTracker | Add Inventory | **Totals** | Bulk Edit | Find Other Chemicals

Passante Lab Chemical Totals

Showing 1-14 of 14 results

Filters

Chemical Name: CAS Number: Building:

Physical State: Location (Space):

Chemical Hazards: **Display units:**

Chemical Name ▼	CAS #	State	Amount	Units	Total Containers
Acetone	67-64-1	Liquid	4.00	L	1
Acetonitrile	75-05-8	Liquid	4.10	L	2
Chloroform	67-66-3	Liquid	12.00	L	3
Ethyl alcohol	64-17-5	Liquid	1.89	L	4
Ethyl ether	60-29-7	Liquid	20.00	L	2
Formaldehyde buffered aqueous solution, 3-20 wt. % in H2O		Liquid	0.19	L	1
Formaldehyde, 37% solution with 10-15% methanol		Liquid	4.00	L	1
Formic acid	64-18-6	Liquid	2.00	L	4
Hexaethylene glycol monodecyl ether	5168-89-8	Liquid	0.95	L	1
Hydrazine, anhydrous	302-01-2	Liquid	39.60	L	4
Hydrofluoric acid aqueous solution, 71-75%	7664-39-3	Liquid	16.00	L	4
Microposit 1400 series photoresist		Liquid	0.47	L	1
Mixture of Nitric acid (90%) and Hydrofluoric acid (10%)		Liquid	4.00	L	1
Water	7732-18-5	Liquid	113.27	L	1

Adding New Inventory

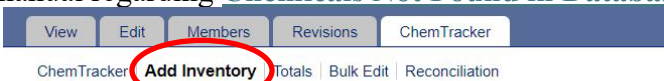
Chemical Look-Up

To add new inventory, click **“Add Inventory”** from the ChemTracker page.

Chemical Name <u>Best for</u> When CAS or Product number is not available or is not found <u>Tip</u> As you continue to type, the list of options in the dropdown menu will change; keep an eye out for your chemical in the list as you type.	CAS Number <u>Best for</u> Pure substances (not mixtures, solutions, or specialty products) <u>Tip</u> Requires hyphens.	Product Name/Number <u>Best for</u> Mixtures, solutions, or specialty products <u>Tip</u> May or may not require punctuation (e.g. hyphens and commas), try both ways if needed.
---	---	---

Select your **search criteria** (Chemical Name, CAS Number, or Product Name/Number) Start typing the chemical name, CAS Number or Product Name/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**.



Add Chemicals to EHRS Environmental Health Group

Chemical

By CAS Number Product Name/Number

☐ Search for chemicals by name

Manufacturer:

Location (Space):

-- Please select an option --

Amount:

Units:

-- Select --

Container Status: * ⓘ

Normal

Unique Container ID: ⓘ

Container Count: ⓘ

1

Additional Details

☐ Controlled Substance?

Create

Create and Add Another

Select the chemical from the dropdown list.

Then select the room number (from the **“Location (space)” dropdown**) to specify where this container will be stored.

If the space you are looking for is not listed, please use the [Request Changes to BioRAFT Lab Locations Webform](#) to have it added.

Note: Selections must be made with the mouse. Selecting a chemical with the Arrow keys and Enter/Return key does not open the Amount, Unit, etc. fields for editing.

Note: Sub-location information (bench, cabinet, FLSC, refrigerator, etc.) is added later. See [Adding Additional Details](#) for more information.

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.”**

Select “none of the above” only after you have searched by chemical name, CAS Number, and Product Name/Number, and you still do not see the correct chemical on the list.

Add Chemicals to EHRs Environmental Health Group

Chemical

By ☐ Name ☐ CAS Number ☐ Product Name/Number

☐ None of the above
--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.

Add Chemicals to EHRs Environmental Health Group

Chemical

By ☐ Name ☐ CAS Number ☐ Product Name/Number

☐ --None of the above-- ✓

Match found.

Manufacturer:

☐

The following are results manually entered by users and not verified in the database. Adding a chemical not matched to the database has consequences for accuracy of regulatory reports.

☐ --None of the above--

[Return to chemical search](#)

[Continue](#)

If you still do not see a match, this means that BioRAFT does not recognize the material and has no safety information as a result. Please contact the EHRs Chemical Inventory Team using the [Problem-Container Form](#). EHRs will create the chemical record for you and manually add safety information.

Required Fields

The following fields **must** be completed when entering new chemicals to your inventory:

- Location (space)
- Unique Container ID (6-Digit EHRS Barcode Number)

Please be aware that ChemTracker does not require you to fill these fields before pressing submit. If you click submit without entering any one of these fields, it will display as blank in ChemTracker. Please avoid omitting this information to prevent the need for EHRS to address this missing information through routine audits and findings in lab inspections.

Chemical

By Name CAS Number Product Name/Number

×

Selected from [20 matches](#). [Search unlinked chemicals?](#)

Manufacturer:

Location (Space):

▼

Amount: *

Units: *

▼

Container Status: * ?

▼

Unique Container ID: ?

Container Count: ?

Specifying Container Size (Amount and Units)

The size of the container (amount and units) **must** be specified.

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

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

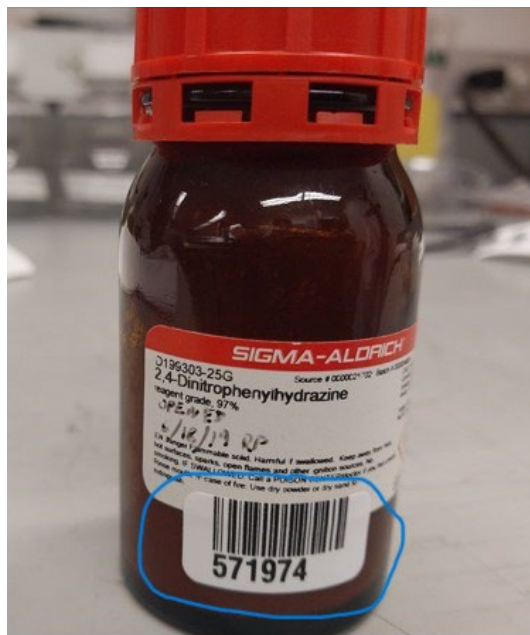
Do NOT use the unit designations *cylinder large*, *cylinder medium*, *cylinder small*.

Consult Reference Chart: Common Gas Cylinder Volumes/Weights (click [here](#) for link) for common gas cylinder volumes. If you do not see your cylinder in the Reference Chart, contact the [Chemical Inventory Team](#) to ask what amount and unit to use.



Unique Container ID (6-Digit EHRs Barcode Number)

All containers of hazardous materials are required to be labeled with 6-digit EHRs-provided barcode labels; see example below.



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)

Using a Barcode Scanner

Click in the “**Unique Container ID**” field and either 1) **type** the 6-digit EHRS barcode number from the provided label, or 2) **scan** the barcode in using your **barcode scanner**:



Amount: *

1

Units: *

PT

Container Status: * ?

Normal

Unique Container ID: ?

6-Digit EHRS Barcode #

Container Count: ?

1

A red arrow points from the scanner to the Unique Container ID field.

If this field is left blank, the system auto-generates a unique ID number beginning with “C-” 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. See Section 3: Viewing and Editing your Chemical Inventory for instructions on how to do this (click [here](#) for link).

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

Chemical Name	CAS #	State	Amount	Location	Container ID	Edit	Remove
Acetone 99%	67-64-1	Liquid	4 l	Annenberg Center - 001	23456789	Edit	Remove

A red arrow points from the scanner to the Edit link in the table.

Creating Multiple New Containers

If you have more than 1 identical container, select the appropriate **“Container Count.”** You will only need to scan the *first* EHRS-provided barcode. The system will automatically generate the rest of the sequential **“Container IDs.”** You must still affix the corresponding labels to each container.

Amount: *

Units: *

Container Status: * ?

Unique Container ID: ?

Container Count: ?

For example, if you are adding 24 containers of “Ethanol 200 Proof” with barcode IDs 600001-600024, enter 24 into the “Container Count” field and 600001 into the “Unique Container ID” field before submitting. ChemTracker will add 24 of these containers and increment the barcode ID as it does.

Assigning location within room (sub-location)

More detailed location information (refrigerators, benches, shelves, etc.) can be added in the **“[Additional Details](#)”** section, accessed by clicking the associated dropdown menu (see below).

Adding Additional Details

The “**Bench**” location field is only *required* for Flammable Liquids Storage Cabinets (FLSCs) and Acid Cabinets (ACs) in the high-rise biomedical buildings:

Stellar-Chance
John Morgan
Anat-Chem
CRB

Johnson
BRB
Smilow

South Tower

Perelman Center for
Advanced Medicine

In all other locations, this field is optional.

If you *want* to specify sub-locations take note:

Additional location information should be added first to the “**Bench**” section, then the “**Shelf**” section, then the “**Specific Location Note**” section, getting more specific in that order.

For example, if you have a container in Bin B, on the Top Shelf of Acid Cabinet 3, fill in the **Bench**, **Shelf**, and **Specific Location Note** fields as:

Additional Details

Lot Number: ?

Chemical Owner:

-- Please select an option -- ▾

Bench:

Shelf:

Bench:

Shelf:

Specific Location Note:

Look out for this!

The “Bench” field is free-form text; therefore, if the name of a location is entered differently for the same location, 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:

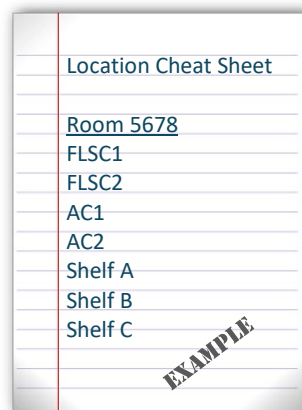
Flammable Cabinet → FLSC

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

First, access your lab's chemical inventory viewing screen. See "Viewing and Editing your Lab's Chemical Inventory" (click [here](#) for link) for detailed instructions.

From here, either scroll through your inventory or use filters to find the container you are looking for. Entering the **Container ID** is recommended for quick lookup of one chemical container.

Click "**Remove**" and then click "**Remove**" again in the following pop-up window to confirm.

ChemTracker | Add Inventory | Totals | Bulk Edit | Reconciliation

View EHRs Example Lab Inventory

Displaying 1 - 5 of 5 results

Download ? Filters 0 Settings Expand

Chemical Name CAS Number Chemical Synonym

Spaces Chemical Owner Physical State

Last Updated After Last Updated Before Product Name

Container Expires After Container Expires Before Chemical Hazards

Database Linkage Status Storage Group Bench

Shelf Specific Location Note ☐ Controlled Substance

☐ Only Removed Containers Notes

Container IDs
Comma-delimited (or one per line) list of Container IDs

☐ Starts With

Hide Advanced Filters Clear All

Chemical Name	Units	Location	Container ID	Edit	Remove
Acetone		Mod V EHRs Building - 220	600025	Edit	Remove
Acetone		Mod V EHRs Building - 220	600021	Edit	Remove
CleanCell M		Mod V EHRs Building - Missing Chemicals	600043	Edit	Remove
Thimerosal		Mod V EHRs Building - 220	600541	Edit	Remove
WASH 1 BUFFER		Mod V EHRs Building - Missing Chemicals	600544	Edit	Remove

Last Updated After Last Updated Before

Are you sure you want to delete container 600025?

Cancel Remove

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. Unlike on the main inventory viewing page, you must click on the **“Submit”** button in the Filters section to apply filters.

Select the containers of interest (a “Select All” checkbox is also available), then click **“Edit selected containers”** in the bottom right corner. From there, indicate the changes you would like to make.

ChemTracker | Add Inventory | Totals **Bulk Edit** | Reconciliation

Select Chemical Containers

This page enables editing or deleting of many chemical containers at once. Use the filters below to find the containers you would like to change. Once you have selected the desired containers, click "Edit selected container" at the bottom of the page. From there, changes to all the selected containers may be made.

Filters

Chemical Name: CAS Number: Chemical Hazards:

Chemical Synonym: Database Linkage Status:

Physical State: Bench: Shelf:

Notes: Last Changed After: Last Changed Before:

Container IDs (up to 1000):

Comma-delimited list of Container IDs

Submit

Show entries

Showing 1 to 5 of 5 entries

Search:

☐ Select All	Chemical Name	CAS #	Amount	Unit	Location	Bench	Shelf	Last Changed
☐	Acetone	67-64-1	4	l	Mod V EHRS Building - 226	test temp chemical		3/15/2024
☐	Acetone	67-64-1	4	l	Mod V EHRS Building - 226	test temp chemical		3/15/2024

☒	Acetone	67-64-1	4	l	Mod V EHRS Building - 226	test temp chemical		3/15/2024
☒	CleanCell M	1310-58-3	2	l	Mod V EHRS Building - Missing Chemicals			3/15/2024
☐	Thimerosal	54-64-8	1	g	Mod V EHRS Building - 229	test temp chemical		3/15/2024
☐	WASH 1 BUFFER		1	l	Mod V EHRS Building - Missing Chemicals			3/15/2024

Showing 1 to 5 of 5 entries

3 total containers selected.

Edit selected containers

To **dispose** of the containers, click “**Remove all selected**”.

Once a container is disposed of, the barcode is also disposed of 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. However, single container records can be edited individually.

If a field is left blank on the edit page, the existing information in that field will be preserved for all records being edited.

ChemTracker | Add Inventory | Totals | **Bulk Edit** | Reconciliation

Edit All Selected Containers

This page enables editing or deleting of many chemical containers at once. Use the filters below to find the containers you would like to change. Once you have selected the desired containers, click “Edit selected container” at the bottom of the page. From there, changes to all the selected containers may be made.

3 total containers selected.

Any changes made below will be applied to all of the chemical containers selected to modify. Any data entered for these fields will **overwrite** data currently existing for these chemical containers. Leaving a field blank means the original values for that field are kept.

Chemical

Look Up Chemical Name or CAS Number:

☒ Chemical Name ☐ CAS Number ☐ Product Name or Number

Start typing the chemical name to find the chemical in the database.

Location (space):

 Select a group to pick a space

Chemical Owner:

 Select a group to pick a chemical owner

Amount:

Units:

Bench:

Shelf:

Specific Location Note:

Expiration Date:

 Format: 2024-03-15

Product Name:

Container Status: *

Lot Number:

Notes:

These changes cannot be undone in bulk.

ChemTracker Barcode Scanout Sign

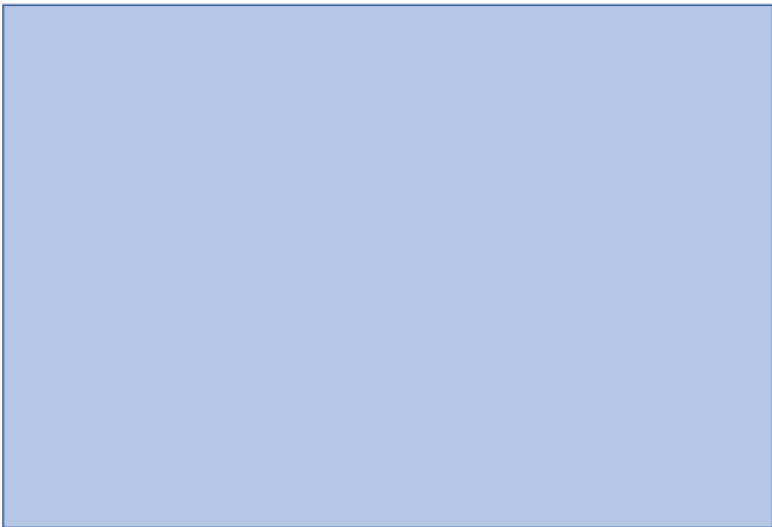
Lab members can remove barcode stickers off empty containers and place them on the sign pictured below. The individual(s) in charge of keeping ChemTracker up to date would then have all the empty barcodes right in one place to bulk delete them from the system. The scanout sign can be printed from our [“Resources for ChemTracker Users”](#) page.

Finish a chemical container with a barcode?

Remove and stick the barcode or write the number below

_____ will remove the container from the lab's
Chemtracker Chemical Inventory (EHRS requirement)

LAB Name: _____





PennEHRS
Environmental Health & Radiation Safety

Reactivating Deleted Records

If you accidentally remove a record from ChemTracker, you may reactivate the container by performing the following steps:

Navigate to your lab's chemical inventory viewing screen. If on the Bulk Edit or Add Inventory screen, click the “ChemTracker” tab at the top. See Section 3: “Viewing and Editing you Lab's Chemical Inventory” (click [here](#) for link) for detailed instructions from other locations in BioRAFT.

- Click on “**Show Advanced Filters.**”

The screenshot shows a filter interface with three input fields at the top: 'Chemical Name', 'CAS Number', and 'Chemical Synonym'. Below these is a 'Spaces' dropdown menu. At the bottom left, the 'Show Advanced Filters' button is circled in red. At the bottom right is a 'Clear All' button.

- Then select “**Only Removed Containers.**”

The screenshot shows a filter interface with three input fields at the top: 'Shelf', 'Specific Location Note', and 'Container IDs'. Below these is a checkbox labeled 'Controlled Substance' and a checkbox labeled 'Only Removed Containers', which is circled in red. At the bottom left is a 'Hide Advanced Filters' button. At the bottom right is a 'Clear All' button.

- Click on the **Container ID link** for the record you'd like to reactivate:

Chemical Name ↓	State ↑	Amount ↑	Units ↑	Location ↑	Container ID
(+)-Propanolol	Solid	1	lbs	Singh Nanotechnology Center - 143 - Chem Storage	418250

- Click “Edit” to access the reactivation feature:

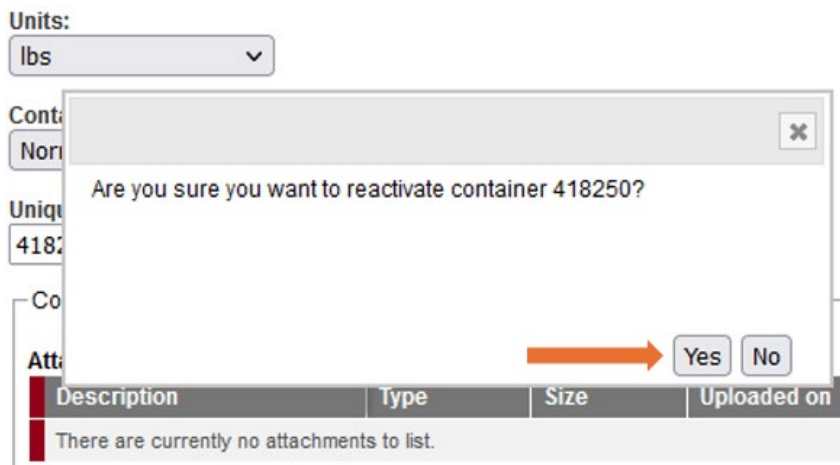


Container 418250 of (+)-Propanolol

- Click “Reactivate” at the bottom of the screen:

 A screenshot of the 'Edit Chemical Container' form. The form includes fields for 'Chemical' (set to '(+)-Propanolol (Solid)'), 'Location (space)' (set to 'Singh Nanotechnology Center - 143 - Chem Storage'), 'Amount' (set to '1.00000000'), 'Units' (set to 'lbs'), 'Container Status' (set to 'Normal'), and 'Unique Container ID' (set to '418250'). There is a section for 'Container Attachments' with a table of 'Attached Files' (currently empty). At the bottom, there is a checkbox for 'Controlled Substance?' and three buttons: 'Update', 'Reactivate' (highlighted with a red box), and 'Cancel'.

Click “Yes” on the pop-up window that appears:



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

THIS METHOD MAY NOT BE USED FOR FLAMMABLE LIQUIDS IN HIGH-RISE BIOMEDICAL LABORATORY BUILDINGS (*Smilow (including Perelman Center for Advanced Medicine and South Tower), BRB, Johnson, CRB, JMB, Anatomy-Chemistry, Stellar Chance, and 3600 Civic Center Boulevard*). 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 two 4-liter bottles of 2-propanol and two 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.

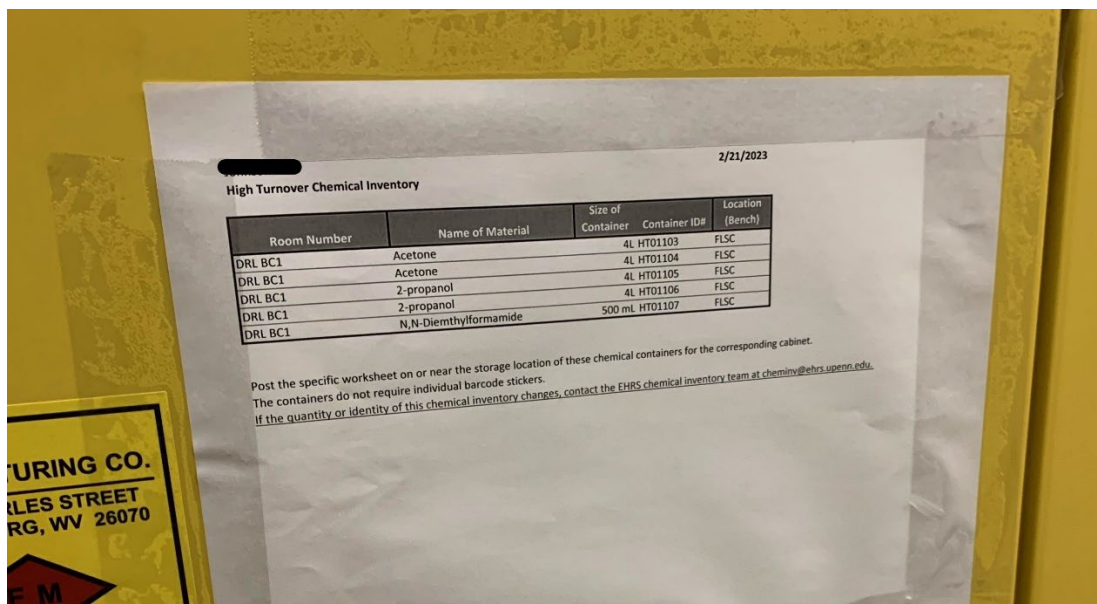


Rather than adding each container to your inventory as you receive it and removing when empty:

- EHRS would create four *representative* containers in your ChemTracker inventory, starting with the letters “HT.”

Chemical Name	CAS Number	State	Amount	Units	Location	Container ID	Edit	Remove	Bench
2-Propanol	67-63-0	Liquid	4	l	David Rittenhouse Laboratory - BC1	HT01105	Edit	Remove	FLSC
2-Propanol	67-63-0	Liquid	4	l	David Rittenhouse Laboratory - BC1	HT01106	Edit	Remove	FLSC
Acetone	67-64-1	Liquid	4	l	David Rittenhouse Laboratory - BC1	HT01104	Edit	Remove	FLSC
Acetone	67-64-1	Liquid	4	l	David Rittenhouse Laboratory - BC1	HT01103	Edit	Remove	FLSC

- 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; see example below.



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 (room number AND cabinet name, such as FLSC1, FLSC2, etc.).

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

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

Lab Moves/Reconciling Your ChemTracker Inventory

If a lab is discarding any containers as part of their lab move/relocation, they are responsible for scanning them out/removing them from their ChemTracker records.

Labs must notify the chemical inventory team (cheminv@ehrs.upenn.edu) prior to giving away containers to other labs. The chemical inventory team will provide guidance on how the involved labs can add/remove ChemTracker records, or they can complete the electronic transfer on the labs' behalf.



The chemical inventory team offers a service called “reconciliation” which helps labs to “true-up” inventory records that are believed to be out-of-date due to poor record keeping, poor training, relocation, etc. Contact us at cheminv@ehrs.upenn.edu for more information.

If your lab recently moved, the first step would be to submit a [Request Changes to BioRAFT Lab Locations \(spaces\) webform](#).

Next, the chemical inventory team will electronically bulk edit your inventory and send you an export of your inventory on a spreadsheet. You will then annotate on the spreadsheet what has been disposed of and the new locations for your other chemicals. You will then send the spreadsheet back to the chemical inventory team for them to apply the updates you noted.

Another option for labs that have moved or with out-of-date inventories would be for your lab to scan the chemicals that remain in your lab and ask the chemical inventory team to reconcile it remotely for you. Instructions for this are included below:

1. Decide the room(s) where your chemicals will be stored.
2. Create a text document (e.g. in MS Word) or Excel file.
 - a. Type in the name of a storage location to function as a header. Describe a sub-location (e.g. "Fridge A") as part of this header if required or desired. Remember to use names that are consistent with those you are already using in ChemTracker.
 - b. Under the location header, list all the barcode numbers for the container records that you want "moved" to that location. **One barcode number per line.**
 - i. You can easily do this by using your barcode scanner. Just put the cursor where you want the barcode number to go and scan the EHRS inventory barcode sticker that's on the container. The scanner should "type" the

number into the document for you. Some will also press “Enter” to move to the next line automatically.

- c. Repeat this process for each of the locations/sub-locations your chemicals are located in.*
 - d. Email the chemical inventory team (cheminv@ehrs.upenn.edu) your document as an attachment.
3. The chemical inventory team will then process your request and let you know when it's complete.

*An example of what your document should look like:

Different Sub-location (Bench) Columns

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	IN1		IN2		IN3		AC1		AC2		AC3		Fridge		Freezer			IN1 = Inorganic Cabinet 1	
2	253068		253063		143840		432776		432801		518089		405756		595297			IN2 = Inorganic Cabinet 2	
3	253191		253067		143844		264916		518088		432768		518229					IN3 = Inorganic Cabinet 3	
4	253203		253069		253115		518082		432778		405931		253027					AC1 = Acid Cabinet 1	
5	321754		253196		295022		432791		432798		518203		518228					AC2 = Acid Cabinet 2	
6	321902		253197		295097		432792		432802		432766		434903					AC3 = Acid Cabinet 3	
7	321930		253225		321795		432799		432779		432787		518079						
8	321935		295015		321931				432759		432767		434894						

Different Tab for Different Location (Room)

Navigation bar: < > ... VLEST Room 435 VLEST Room 419 + ::

Reference Chart: Common Gas Cylinder Volumes/Weight

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

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

If you do not see the specifications for the gas cylinder you are trying to enter, contact the Chemical Inventory Team, cheminv@ehrs.upenn.edu.