



# Chemical Inventory User Manual

Berkeley EH&S  
UNIVERSITY OF CALIFORNIA

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## Introduction: Welcome to your newly tagged inventory

[RSS Chemicals](#) is the systemwide chemical inventory database used to tag and identify chemicals. The application is designed to be a live system for location information on every hazardous material on campus. It also has a wide range of added usability features, including the [Checkout](#) feature, exchanging inventory items between labs, and multiple ways to scan a tag.

Your newly tagged inventory in RSS Chemicals is designed to simplify how you and your lab track all of your chemical containers. An up-to-date online database for chemical inventories improves your ability to locate your chemicals, as every item is also now tied to a tagged [sublocation](#) within the room. It also helps reduce duplicate purchases, which in turn reduces waste. On a campus-wide level, a tagged inventory will help determine accurate quantities of hazardous chemicals needed to meet requirements for Maximum Allowable Quantities (MAQ).



This document will explain how to use and maintain your tagged inventory in RSS Chemicals and describe your lab's responsibility for keeping it updated at least annually. Hopefully, by integrating new practices into your lab, an annual inventory reconciliation will take a fraction of the time it previously did.

## How to Maintain Your Inventory in RSS Chemicals

Your laboratory must do a few things to ensure your inventory remains accurate. In addition to being required, the more accurate it is, the more usable it will be for your lab and potentially for collaborating labs.

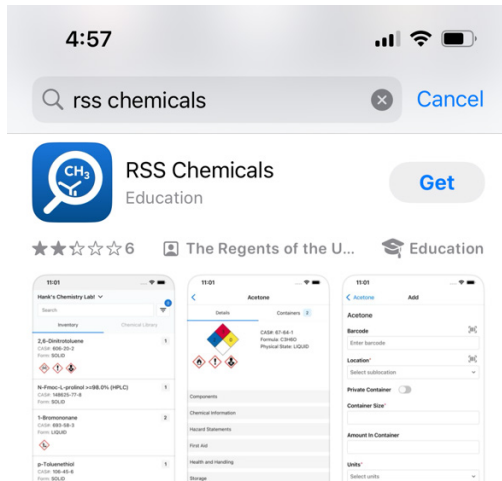
The two main interfaces for tagging are a smart device and a computer. A smart device is any mobile device, such as a tablet or smartphone, that has the RSS Chemicals app installed and a camera. A computer with internet connectivity can be utilized to aid with typed input and, if desired, a 2D barcode scanner.

### Adding an Item via Smart Device

Each time the lab receives a new chemical, it should be added to RSS Chemicals. Often the simplest method is to use a smart device (such as a smartphone or tablet).

#### Prepare Smart Device

- Make sure the device is charged.
- Make sure the device has access to the internet.
- Download the “RSS Chemicals” application.



- Start the app and sign in with your @berkeley.edu email to get started
- The app will then direct you to the CalNet Authentication Screen
- After authenticating, your PI's/supervisor's information will then be displayed, along with any chemicals already in the inventory.

## Prepare yourself: Safety / PPE

- When handling chemicals, make sure to have proper PPE
  - This includes at least a chemical lab coat, goggles, and appropriate gloves
- Always review or look up SDSs before handling any container
  - The UC SDS Search tool is a helpful resource: <https://ehs.ucop.edu/sds/>
- If working alone, handling both containers and smart device, consider keeping smart device in a clear bag, so as to not contaminate it. Or, work in a team of two people, where one person wears gloves and handles the chemicals / adheres tags, while the other person operates the smart device, glove-free.

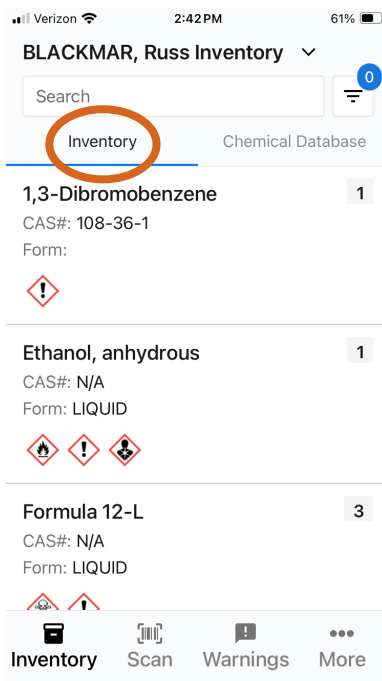
## Prepare Chemicals

- Create a safe space near the chemical storage area to run the inventory
  - Ensure they are all properly closed, and the bottles' integrity is not compromised.
  - Use a bin or tray to help transfer chemicals back and forth
  - Use two hands to move chemical containers, one on top and one holding the bottom
- Work with batches of chemicals that are compatible with each other.
- It is mandatory to inventory commercial bottles (i.e., all original containers). Containers containing pourings or dilutions from original containers are optional.

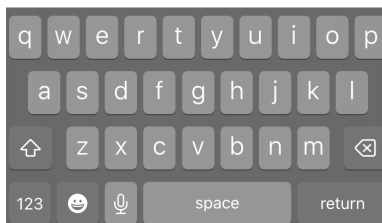
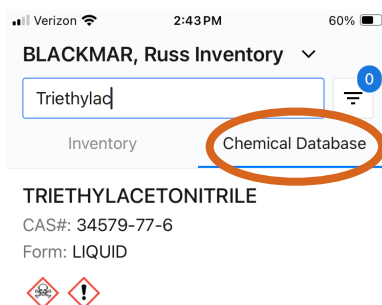


## Tag Chemicals

- Place a tag on the container.
  - Only one tag should be assigned to each container.
  - Avoid placing the tag on the container's cap (since caps are easily misplaced from the container).
  - To have a adequate tag placement, make sure the container is clean
  - The tag can be placed on the manufacturer's label. However, try not to cover any of the following:
    - Product Identifier
    - Pictogram(s)
    - Signal Word
    - Hazard Statement(s)
    - Precautionary statement(s)
    - Name, address, and telephone number of the chemical manufacturer
- To add this item to RSS Chemicals, follow the steps below:
  - If you are adding a container of a chemical that's already in your inventory, open the "Inventory" tab. Search for the container using the item's name, CAS number or product number.



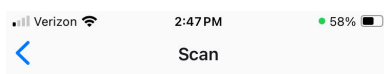
- If you are adding a container of a chemical that's not in your inventory, select the "Chemical Database" tab. Search for the container using the item's name, CAS number or product number.



- Select the correct item, then click "Add Container."
- Tap on the barcode scan icon to activate the scanner (your smart device's camera).

A screenshot of the 'Add' screen in the mobile application. The status bar at the top shows 'Verizon', signal strength, time '2:44 PM', and battery '60%'. The screen has a blue back arrow and the word 'Add' at the top. The main content area has the chemical name 'TRIETHYLACETONITRILE'. Below this is a 'Barcode' section with a barcode icon circled in orange and a text input field labeled 'Enter barcode'. Below that is a 'Location\*' section with a location icon and a dropdown menu labeled 'Select sublocation'. Further down is a 'Private Container' section with a toggle switch. Below that is a 'Container Size\*' section with a text input field. Then is an 'Amount In Container' section with a text input field. At the bottom is a 'Units\*' section with a blue button labeled 'Add to Inventory'.

- Hover your smart device over the tag on the container so that the tag aligns with the green square on the screen. The device will automatically capture and populate the tag into the blank field.



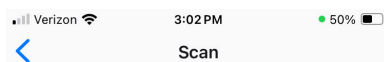
Total: 1

[View All](#)

CA0000000000000000000017DD  
D

Use Barcodes

- The following fields are automatically populated: Physical State, Number of Containers, and Received Date.
- You must populate all the fields with the correct information:
  - Note that the following must be entered: Container Size, Units, Container Type and sublocation. Scan the barcode of the sublocation where the container will be stored.



Scan a sublocation to associate with containers.

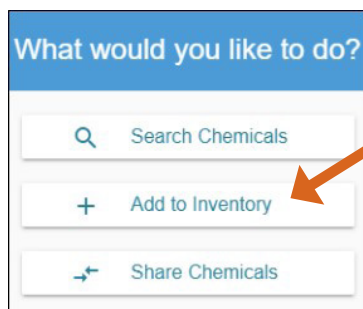


- Click “Add to Inventory”.
- See [Adding an Item Not Found in UC Chemicals Library](#) if your item is not found in the search

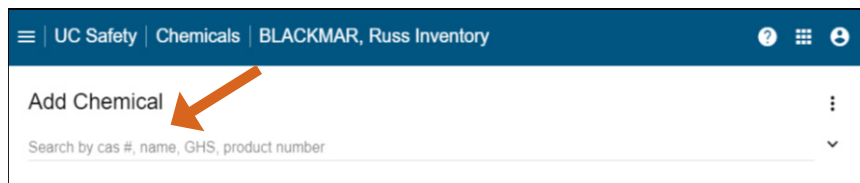
## Adding an Item using a Scanner

You will need to ensure that any new items received in the lab are added to RSS Chemicals. You can purchase scanners or borrow them from EH&S for large batch adding/reconciliation.

1. To add a new item, place a new tag on the container
  - Only one tag should be assigned to each container.
  - Avoid placing the tag on the container’s cap (since caps are easily misplaced from the container).
  - To have a adequate tag placement, make sure the container is clean
  - The tag can be placed on the manufacturer’s label. However, try not to cover any of the following:
    - Product Identifier
    - Pictogram(s)
    - Signal Word
    - Hazard Statement(s)
    - Precautionary statement(s)
    - Name, address, and telephone number of the chemical manufacturer
2. Bring your item to the sublocation where it will be stored.
3. Insert power cord from cradle into outlet. Attach the scanner’s cradle via usb to laptop / computer.
4. Next, use a laptop / computer and log into RSS Chemicals. Check that your lab is selected. Click “Add to Inventory” to begin.



5. Search for the item's name, CAS number or product number. Choose the correct item, then click the + sign next to 'Containers' (see [Adding an Item Not Found in RSS Chemicals Library](#) if your item is not found in the search).



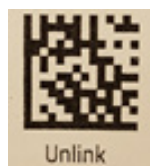
6. Populate all the fields with the correct information using the keyboard (size, container type, storage location, etc.) Then use the mouse to select the barcode field.

Methotrexate

Edit Container	
Number of containers	Barcode Optional
1	

7. Pick up the scanner and pull the trigger once the crosshairs are locked onto the tag. The tag should be automatically populated in the barcode field.
8. Make sure all other relevant fields are populated. Click **Save**. Repeat these steps as necessary.

**Note:** If the barcode scanner is not working properly, scan the “Unlink” barcode below:



Put the scanner back into the base. Wait until it completes 2 audio cues. It should begin working again. Proceed back to Step 6.

## Adding an Item via Computer without Scanner

Although using a smart device is ideal to add single items, using a computer is more efficient to add a large number of containers of one chemical.

You can create multiple containers for a particular chemical at once. However, you will need to manually enter any tags or scan them with a smart device later.

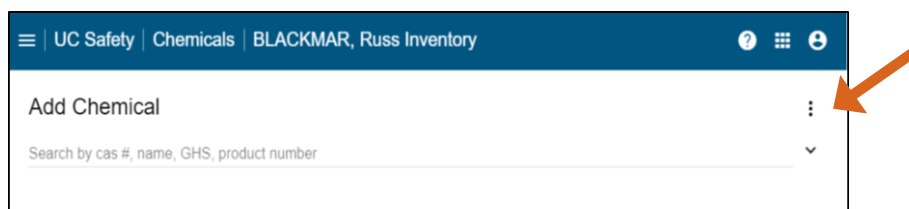
1. From a laptop or desktop computer, log into RSS Chemicals.
2. Go to 'Add to Inventory.' Search for the item's name, CAS number or product number.

- Choose the correct item, then click the **+ sign** next to 'Containers' (see [Adding an Item Not Found in RSS Chemicals Library](#) if your item is not found in the search).
3. Populate all the fields with the correct information (number of containers, container size, container type, storage location, etc.). You will note that once you fill in the 'Number of Containers' field with a number higher than 1 the barcode field becomes grayed out.
  4. Click the **Save** button at the bottom of the page. Your containers will then appear on the chemical page, scroll down to 'Containers' to view them. You can manually enter tag numbers for each container record by clicking the ellipsis across from the container and selecting Edit, or you can later scan in tag numbers using a mobile device in the **Edit** field.

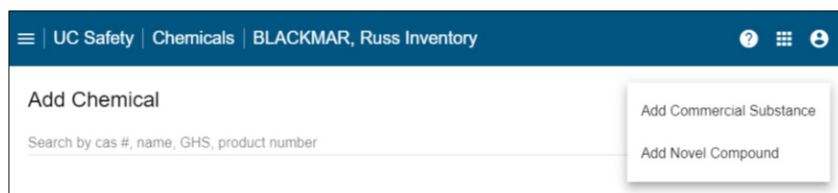
## Adding an Item Not Found in RSS Chemicals Library

Sometimes the item you are attempting to add will not be found in the 'Add' search function. Such items may either be very obscure chemicals, commercial products not yet in Chemicals, or novel compounds created by your lab. These instructions describe how to add these items on a desktop, however it is also possible to add Commercial Substances using a mobile device.

1. After logging into Chemicals, to add in an obscure chemical or commercial product not found in the 'Add' search, click the **ellipsis (three dots)** at the upper right corner.



2. Depending on the material, click either **Add Commercial Substance** or **Add Novel Compound**, then follow the prompts to fill out the required fields for your material.



If your item is an obscure chemical or a commercial product made of a mixture of compounds, use **Add Commercial Substance**. Commercial substances must have the following fields populated: Name, Vendor, Product Number, and Physical State.

Name Multi-Purpose Hard Coating	
Vendor American Elements	Vendor Name
Product Number 9001	Physical State Liquid

Commercial Substance Addition

If your item is something your lab has synthesized within the lab and doesn't likely exist elsewhere, click **Add Novel Compound**. Novel compounds must have the following fields populated: Compound Name, Description, and Physical State.

Novel Compound

Add a novel compound only if you cannot find the chemical by searching and it is not available from any manufacturer.

Compound Name  
Novel Hard Coating

Description Optional  
Abrasion-resistant coating

Physical State  
Liquid

Molecular Formula Optional

SMILES Optional

SAVE

CANCEL

Novel Compound Addition

- After you click **Submit**, you will then be able to find this material in the 'Add' search window.

## Removing an Item

To best maintain your inventory, it's preferable to remove items from RSS Chemicals when they're disposed of. If you forget to remove a container, the next annual reconciliation should correct this oversight. Until then, your inventory will indicate that the container is still in it.

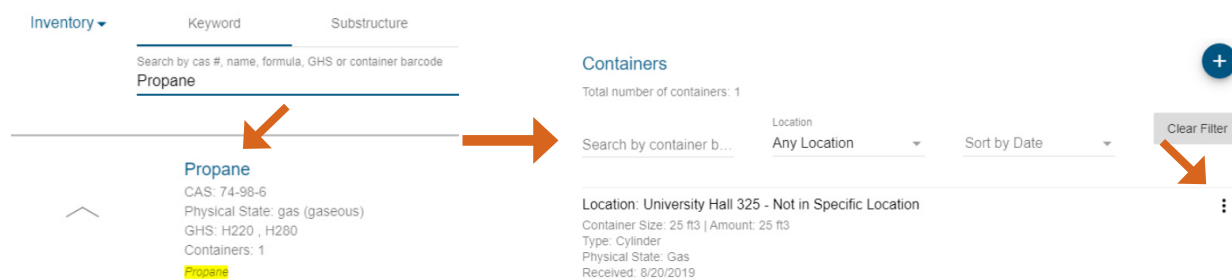
The desktop version is a great way to remove multiple containers at once, while the mobile app allows you to remove individual containers while in the lab.

## Removing an Item via a Computer

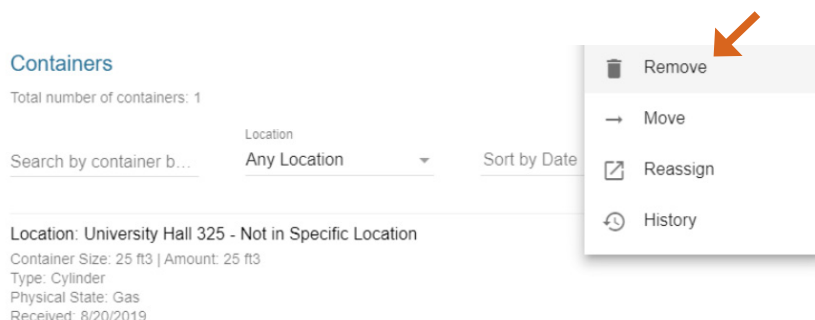
- Log into RSS Chemicals from your desktop or laptop computer.
- Click on **Search Chemicals** and search for your item by CAS # or Name.



- Click on the search result for the item to be removed.
- Scroll down to 'Containers' and locate the container in the list.
- Click the **ellipsis** (three dots) across from that container.

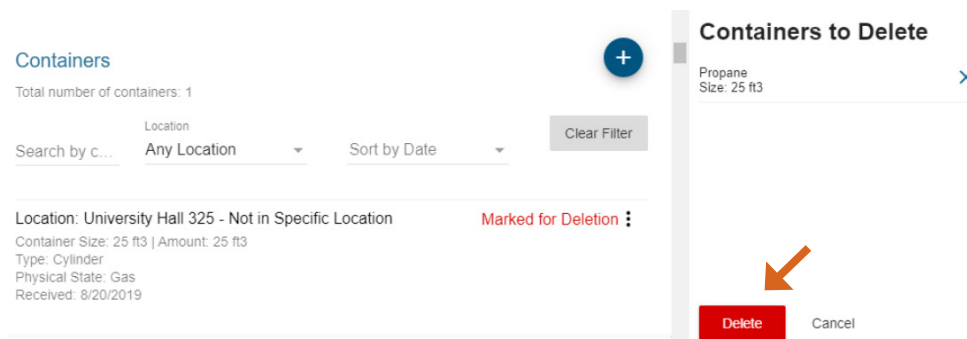


- Select the **Remove** option:



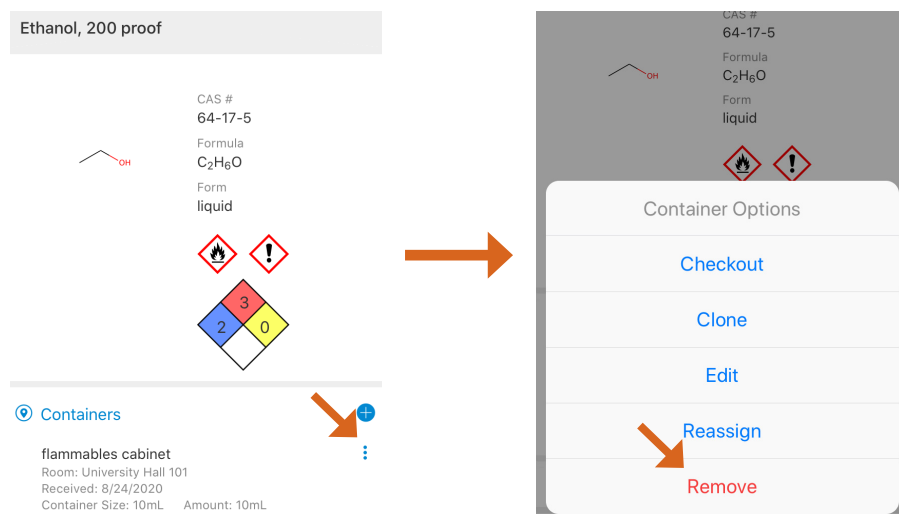
- Add any other containers you wish to remove to the 'Containers to Delete' queue.

- Then click **Delete**.
  - The 'Containers to Delete' queue will remain active until you either remove the items or cancel the function.

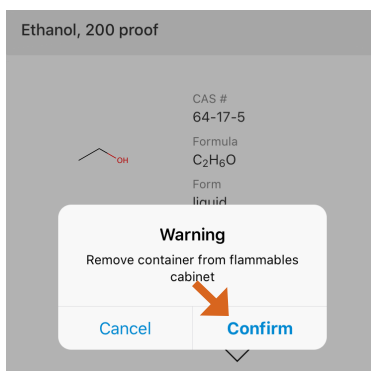


### Removing an Item via a Smart Device

- Open the RSS Chemicals app on a mobile device and choose **Scan**.
- Scan the tag on the container you wish to remove.
- Tap the **ellipsis** (three dots) across from the container and select **Remove**.



- Click **Confirm** and the container will be removed.

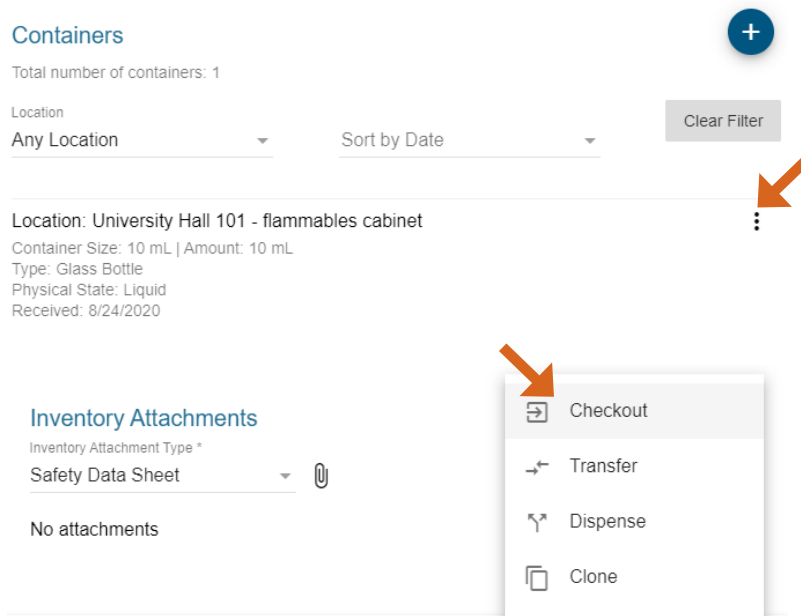


## Checking Out An Item

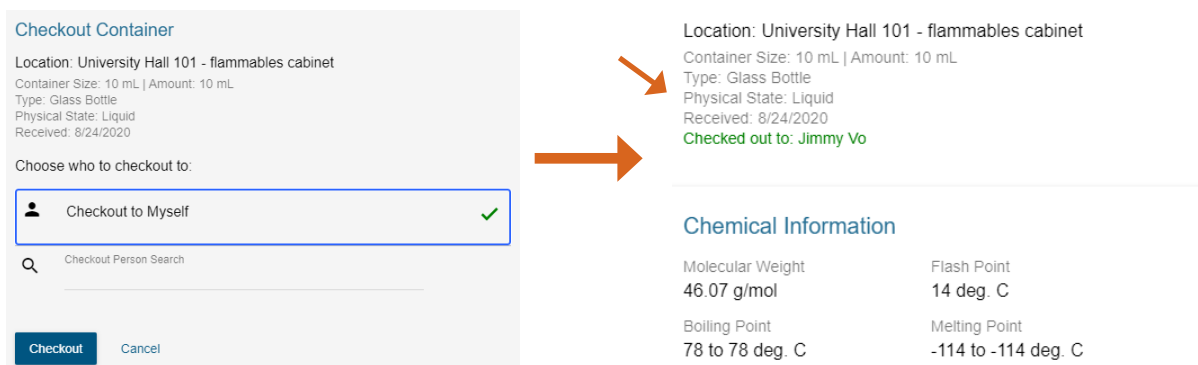
The 'Checkout' feature informs your labmates when you've moved a container from a sublocation. If they're looking for the container, they'll know to ask you instead of searching for it in the cabinet or shelf it's assigned to. You can also keep track of any items you allow other labs to borrow by searching for any researcher's name. It's good practice to use this feature to help keep an accurate inventory that's helpful for the whole lab.

To use the 'Checkout' function:

1. Search for the chemical you wish to check out in RSS Chemicals. Click the **ellipsis** (three dots) across from the container you would like to take, and click **Checkout**.



2. Check it out to yourself, a labmate or a researcher in another lab. The container listing will now display the name of who the container has been checked out to.



## How To Log Frequently Ordered / Routinely Used Chemicals

Some labs go through many containers of the same material frequently. These could be a few different types of solvents that are always used in the lab or perhaps a few types of gases where the cylinders are changed out frequently. For these cases, it's not practical to add/delete a container each time it's changed out (plus it is a waste of tags!). Your lab may use a static tag system for situations like this.

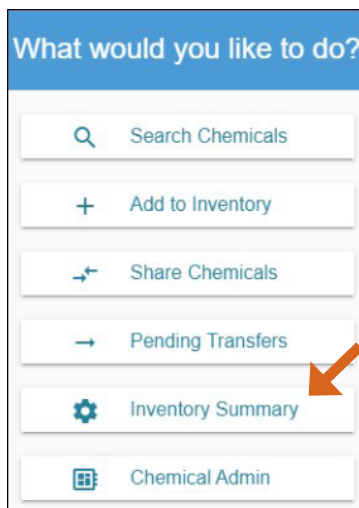
When the RSS Chemicals tagging team scanned your inventory, we likely installed a static index of tags for these routinely used chemicals near the sublocation. For these containers, you will not need to make any edits in RSS Chemicals as you replace the spent containers. However, suppose you are increasing or decreasing the number of containers in this sublocation. In that case, you should either add or remove the appropriate tags on the static list and add/remove the container in RSS Chemicals.

## How to Create Sublocations

In RSS Chemicals, locations may refer to sublocations or rooms. Sublocations are the areas within your room where items are stored (e.g., flammable cabinet, -30 freezer, Joan's bench, Shelf 4C, etc.). Only people designated as owners, delegates or managers in RSS Chemicals are able to create new sublocations.

To create a new sublocation:

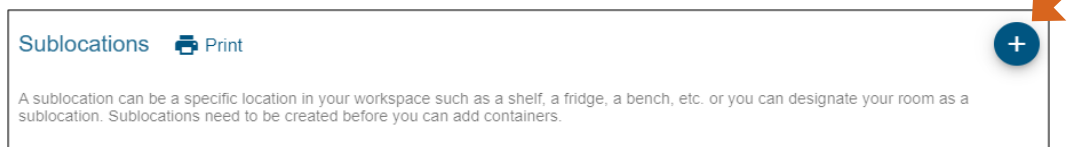
1. From the home page, click on **Inventory Summary**.



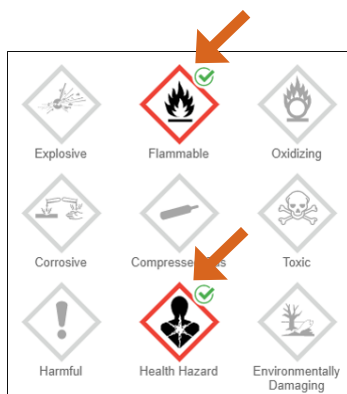
2. Scroll down until you reach the 'Sublocations' heading at the bottom of the page.



- Click **+** on the right, and then fill in the required fields (Temperature and Pressure default to 'Ambient' and can be edited as needed).



- If the sublocation stores a particular hazard class, you may mark it by clicking the appropriate pictogram.



- After inputting the information, click **Save** and this should then appear as a location option when you add new chemicals.

## Reconciliation

Every lab, shop, and any other area on campus with hazardous materials needs to update and certify its inventory in RSS Chemicals each year. You will need to update your inventory one year after it was tagged and each subsequent year after that. With your inventory now tagged, it is much easier to reconcile what you have in your rooms to what is listed in RSS Chemicals. Using a scanner that you may borrow from EH&S, you can quickly scan each item in your lab and update your inventory in RSS Chemicals.

## When to Reconcile

Every inventory on campus needs to be updated (or reconciled) and certified annually. To determine when your inventory needs to be updated and certified, look at the 'Inventory Summary' page for your lab in RSS Chemicals. Your inventory must be re-certified one year after the date listed here (right side of the 'Inventory Summary' page).



Last certified as accurate on Aug 31, 2021 by John Doe.

[Recertify Inventory](#)

We suggest that labs begin reconciling their inventory at least a few weeks before the certification is due. This will allow time to resolve any issues that may be uncovered during reconciliation.

## Tools Needed

- Batch hand scanner, available by loan from EH&S (including scanner docking station and USB cable)
- [Scanner cheat sheet](#)
- Computer to plug scanner into
- Extra tags for containers that are found to not yet have tags

## How to Reconcile

For detailed instructions on the reconciliation process, please see the [Reconciliation](#) section on the 'Inventory Summary' page of RSS Chemicals.

We recommend the QR code batch scanning process ("Reconcile your inventory by sublocation (barcode only)"). Please see reconciliation and certification instructions below:

- Using a batch hand scanner, you can quickly scan each container's tag and its sublocation's tag. The scanner stores this "batch" of data, which you can then download into an Excel file.
- You will then upload your file to RSS Chemicals in the 'Reconciliation' section of 'Inventory Summary.' RSS Chemicals will then produce a report of which containers were found, and which containers were not found.
- After reviewing the list of containers not found, you may choose what to do with them (select which to keep and which to delete).

- During the tagging process, you will also want to set aside any containers you observe that do not have a tag. After you've finished the Reconciliation procedure in 'Inventory Summary' (removal of items no longer in your inventory), you should then place tags on the unaccounted containers, and scan & add them into RSS Chemicals.
- After your lab is satisfied that the inventory data in RSS Chemicals accurately reflects what is inside the rooms of your lab, you are then ready to certify your inventory in RSS Chemicals, on your PI's behalf. Go to the 'Inventory Summary' page and click Recertify Inventory. After confirming, the date will then be updated to today's date.

## Resources

- [Reconciliation page](#) in RSS Chemicals
- [Scanner cheat sheet](#)
- [RSS Chemicals User Guide](#)
- Risk & Safety Solutions: [service@riskandsafety.com](mailto:service@riskandsafety.com)
- EH&S Chemical Inventory Specialist: [cheminv@berkeley.edu](mailto:cheminv@berkeley.edu)
- [EH&S Chemical Tagging Webpage](#)