

# RSS Chemicals RFID FAQs and Best Practices

## RFIDs and Barcoding

- Use the Mobile app to easily add barcodes to existing containers. This utilizes the camera on your mobile device to scan the QR code and “type in” the number for you, saving you time
- Use the desktop to manually edit and type in barcode numbers. Beware this is a manual process and introduces room for human error with typing incorrectly.
- Having a clean surface to attach the barcode is very important. We recommend wiping off a container first to make sure it is not dusty or has residue or oil on it. That ensures the adhesive will stick.
  - The challenges we know about are fridges and freezers- not easy to get barcodes to stick to wet or frozen surfaces. We have some workarounds to suggest in this case like putting the barcode on a piece of paper or a “necklace” style tag that slips over the container.
- The barcodes are folded in half- like a “flag” so the barcode sticks out in 3D space, and the flaps need to attach to the clean contact spot on the container
  - We generally recommend not covering up any information on the container label.
  - The “flag in 3D space” makes it easier for the RFID reader to pick up the number- we’re working against physics and don’t recommend putting it “flat” onto the container because then the radio waves from the barcode would be bouncing around inside the bottle and not propagating through the air.
- There will be instances where using barcodes doesn’t make sense, and that’s okay. Some examples of that are:
  - High-traffic or high-velocity containers like working solutions or substances that are used a lot of
  - Static inventory that always has a set amount at any given time
  - Gas cylinders, depending on the velocity. This is where a necklace label with a barcode on it can be of use.
- Fridges/freezers
  - Since we are fighting physics, it may be impossible to get an RFID barcode to stick to a container that is frozen or has condensation on the container.
  - We generally recommend either putting a barcode on a piece of paper under the container or outside of the fridge/freezer in a way that is obvious for which container the barcode belongs to
- Gas cylinders can use a “necklace” nametag that has the barcode on the tag instead of the cylinder itself, since the cylinders may be switched out for new ones at any given time.
- Smaller containers – it is up to your organization to determine if every container requires a barcode or if only certain sizes of containers of hazardous materials need to be barcoded. Generally, if a container is smaller than the barcode, it may not be a good idea to put a barcode

on the container itself. We recommend the above suggestion for fridges and freezers if that is the case.

- Some organizations choose to “combine” the total volume of small containers into one larger container so that all material is accounted for, then add a comment on that container explaining it is a combination of volume from multiple small containers. This may not be recommended since this strategy may affect your reporting numbers, like Maximum Allowable Quantities (MAQ). Please determine at your organization how you would like to handle this.

## Reconciliation

- Reconciliation typically happens once a year but can be done more often, depending on your organization’s preferences.
- Some organizations choose to have EHS purchase multiple scanners and lend them out like library books for labs to use. Some other organizations will go in and perform the reconciliation for the labs, this is up to your organization’s preference.
- Scanner sensitivity- depends on the scanner and its features. Different RFID scanners sometimes offer a feature to adjust sensitivity for “reading” RFID barcodes. You may need to physically put the scanner into the sublocation and get close when sensitivity is low or be further away when sensitivity is high.
- When dealing with metal flammable cabinets, for example, RFID waves may not escape through the metal sides. Opening the cabinet and putting the scanner inside to read may be needed.
- Outline of steps
  - Add and barcode all containers into RSS Chemicals
  - Purchase a scanner(s)
  - Scan the room with the RFID scanner and ensure all barcodes are read.
    - Compare the number against the inventory summary page or scan until no beeps are made
  - Transfer the scan file from the scanner to the computer
  - Copy and paste all barcode numbers to a fresh Excel file so that only barcode numbers are in the file. Save to your computer
  - Log into RSS Chemicals
  - Choose Inventory Summary
  - Choose “Reconcile your Inventory”
  - Select which rooms are included in the scan. This sets which containers the scan benchmarks against
  - Upload the file you saved to your computer
  - The file will be parsed and will compare the containers you scanned and physically in the room against the containers that are in the online system, and figure out the differential to determine if you scanned more or less containers than what is in the online inventory
  - A report is made that then outlines which barcode numbers (because the system only knows what barcodes you scanned, not what is in the container) were found or not found

- Use that Reconciliation Report to then Search your inventory by barcode number to remove it or add a new container and use that barcode number, depending on the recommendation