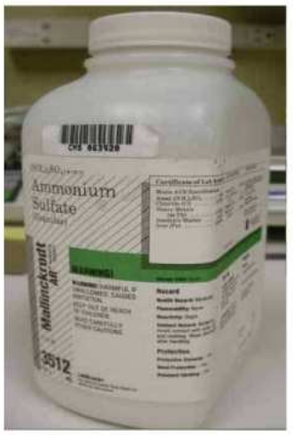
Contents



1.0 Purpose/Scope

This procedure provides standardization of the protocol used for the inventorying and bar coding chemical containers at BNL. It also minimizes the Chemical Management System (CMS) Team's exposure to potentially hazardous substances.

The CMS Team is charged with inventorying, bar coding and maintaining the BNL site-wide chemical inventory. In fulfilling this responsibility, the CMS Team routinely handles closed containers of chemicals to gather data about the chemical and the storage container itself for inclusion in the inventory database. Chemical containers are encountered in research laboratories, industrial areas, machine shops and warehouses.

2.0 Responsibilities

2.1 CMS Team: This procedure is implemented through the Chemical Management System Program Manager. The Chemical Management System Team inventories and applies bar code labels to chemical containers at BNL. The CMS team is responsible to follow the provisions of this procedure.

2.2 The inventorying of chemical containers shall be performed by or under the direct supervision of persons who have demonstrated the competence to satisfactorily

perform this task as evidenced by experience and training.

2.3 Communication with, and cooperation from, the contact person, RCD- Facility Support and/or Department/Divisional ESH Coordinators will also be needed to coordinate this activity.

3.0 Definitions

Bar Code: An adhesive label that provides a unique number, for a chemical container, in both human readable and electronic format.

CMS: Acronym for the Chemical Management System.

MSDS: Acronym for Material Safety Data Sheet.

Contact Person: Person listed in CMS database as the official owner of the chemical container.

4.0 Prerequisites

4.1 **Worker Qualification:** CMS Team member must be trained as per Section 7 or be in the presence of a lead team member so trained at all times.

4.2 **Personal Protective Equipment**

- Hand: During bar coding, containers are handled closed, contact with the contents is minimal and does not pose a significant health risk. Disposable gloves should be used as a precautionary measure. Acceptable elastomers are: Nitrile, PVC, and Natural Rubber. The preferred elastomer is Nitrile. Insulated gloves should be used when handling the dry ice that the chemical container may be packed in.
- Body: Lab coats are required in posted areas. When not posted, if contact of the body with chemicals could be reasonably anticipated, a laboratory coat is to be worn. If contact with potentially contaminated surfaces is not expected, body covering is optional. However, if personal clothing items become contaminated, they must be surrendered for BNL cleaning or disposal.
- Foot: Safety toe shoes are required when posted, and at Building 98 and 21. Safety shoes required when handling gas cylinders. If contact with potentially contaminated surfaces is not expected, shoe coverings are optional. However, if personal shoes become contaminated, they must be surrendered for BNL cleaning or disposal.
- Eye: Safety Glasses with side shields are required. Safety goggles may be used as added protection. Face shield should be used when handling large quantities of large

size acid containers.

- Respiratory: Under normal use, respiratory protection is not required. If chemical levels from contamination in an area exceeds the OSHA and/or ACGIH standards:
  - CMS management must determine that exposure of the bar coding team to an area of elevated chemical contaminant is absolutely mission critical
  - Engineering and administrative controls must first be considered to minimize exposure.
  - If respirators are required, the requirements of BNL's Respiratory Protection Program must be met.

4.3 **Area Access**:

4.2.1 Contact the appropriate Facility Support Representative or Technician to obtain approval to enter radiological areas.

4.2.2 Verify with the appropriate Facility Support Representative or Technician if a Work Permit or Radiological Work Permit is needed or is in effect. If so, review and sign the permit.

4.2.3 Use appropriate PPE for area.

5.0 Precautions

5.1 Before handling containers, locate the nearest telephone, fire alarm pull-box, eyewash and/or safety shower in the area.

5.2 Do not work alone if bar coding very hazardous materials. If working with very hazardous materials work with another CMS Team member or person who is aware of the hazard such as the owner of the chemical.

5.3 If any unusual or unacceptable condition is noted in the package or container, the CMS member is NOT authorized to proceed further. Stop work until assistance is available.

5.4 Read the hazard label on containers or packing paper and handle containers according to instructions.

5.5 The CMS Team is ***not*** authorized to inventory or handle radiological sources, radioactive isotopes, radiologically activated chemicals or radiologically contaminated chemicals. When inventorying new chemicals arriving at the Receiving Warehouse, be sure ***not*** to open shipping cartons containing radiological items. To avoid opening shipping cartons containing radiological items, carefully read packing lists ~~if~~ included

on the outside of the carton, shipping carton labels, and adhesive address labels to alert you to the presence of a radiological item.

5.6 **Hazard Determination:** Since most containers will be properly sealed it is not anticipated that bar coding chemicals will result in any chemical exposure. If containers are encountered that are not properly sealed (such as shrink wrap bottle cap seals or outer polymer envelopes) or have a residue on the outside of the container, the CMS member(s) are authorized to stop work and not handle the container until the owner has rectified the condition. Chemicals which are not properly labeled or where the preparer has not made clear the hazards involved with the chemical should not be handled. The application of bar codes does not expose the operator to physical or radiological hazards.

5.7 **Waste Management:** The process does not cause significant ergonomic concerns in routine use. This procedure does not generate Hazardous Waste.

5.8 **Job Risk Assessment:** Consult the current *Job Risk Assessments SHSD JRA-11* for the hazards and controls of this SOP.

6.0 Procedure

6.1 Equipment that may be required to conduct bar coding:

- Bar code labels
- Computer
- Box cutting knife
- CMS Green Tape
- CMS Red Tape
- CMS Action Memo
- Bar code Scanner
- Gloves- Nitrile or latex splash type gloves
- Safety Glasses
- Plastic Bags, Twist Ties
- Impulse Heat Sealer
- Nalgene® Work Tray (Secondary Containment)

6.2 Pre-check of area:

6.2.1 Check with the *Contact Person* for any special instructions for working in the area, prior to entry into a laboratory. Inquire about areas that may not be entered, storage locations for delicate equipment or areas that should not be disturbed. With the help of the *Contact Person*, identify the areas with chemical storage and the chemical containers that need to be bar coded. Have the Contact Person verify the safety in opening freezers, refrigerators, special storage cabinets, desiccators, etc.

6.2.2 Wear any protective equipment, including TLD, required for the work area.

6.3 Determine whether the chemical container needs to be bar coded by referring to the CMS web site for what is entered into the CMS Database; http://intranet.bnl.gov/esh/cms/. Attachment 9.1 is an example of chemical containers that do or do not get bar coded.

6.4 **Applying the bar code label:**

6.4.1 Place the adhesive bar code labels on the chemical containers, preferably above the manufacturer's label so that it does not obscure pertinent information. This position makes it very easy to scan the bar code with a scanner. If the label will not fit above the manufacturer's label or if the container is a small diameter (<2 inch dia.) cylindrical container place the bar code vertically to the right of the manufacturer's label. See Attachment 9.2 for examples. When placing a bar code label on a small chemical container, take care not to obscure pertinent information on the manufacturer's label. If the container is too small to avoid this, make a tab with clear transparent tape and apply the bar code label to the tab.

6.4.2 If a kit containing multiple chemicals arrives and it would not be practical to bar code each chemical container inside the kit, the kit can be bar coded with just one bar code placed on the top or front of the kit so that it is noticeable.

6.4.3 Containers which contain non-radioactive isotopes should be bar coded provide that they are not controlled under the Isotopes and Special Nuclear Materials program.

6.4.4 Place a Static Inventory collar on gas cylinders with low toxicity, oxidizing, reactivity and fire hazards.

6.5 **Bar coding in the Receiving Warehouse:** When inventorying new chemicals arriving at the Receiving Warehouse:

6.5.1 Collect all the pertinent information from the shipping carton, packing list and chemical container that is required to create a record using the computer entry forms or the Inventory database (see Attachment 9.3).

6.5.2 Before opening a shipping carton to inventory a chemical container, read any packing lists, shipping carton labels, and adhesive address labels on the outside of the carton to aid in the identification of the chemical and its related hazards.

6.5.3 When a chemical container is inside a shipping carton, carefully open the shipping carton to allow for later repackaging. Evaluate the state of the inner packaging. If further opening and/or removal of the inner packaging would compromise the chemical's integrity or purity (e.g. opening a hermetically

sealed can or opening a foil wrapped pouch protecting a light-sensitive chemical) or cause a chemical exposure, go no further. Cut the bar code label from the roll (without disturbing the bar code backing) and tape it in a prominent location on the inner packaging. Be sure to apply the CMS *Attention* sticker that directs the end user to apply the bar code label to the primary container, immediately upon opening.

6.5.4 If further opening and/or removal of the inner packaging would ***not*** compromise the chemical's integrity or purity or cause a chemical exposure, open the inner packing and place the bar code on the primary container. Include a "Required Action" form if any required information can not be obtained due to the packaging. See step 6.5.7 for details.

6.5.5 When working with chemicals that have been identified as be very hazardous or when handling large containers of liquid chemicals, work with the container inside of a secondary containment tray. When bar coding cases of chemical containers where it is not practical to work in the normal CMS area, bar code the containers within the shipping box or container. Only bar code one container at a time and only lift the container high enough to attach the bar code. Do not remove the containers from the shipping box such as taking them out and placing them on the floor. The objective here is to keep the container as close as possible to its original shipping position and to reduce the amount of handling and the distance that the container is moved.

6.5.6 Utilize the Impulse Sealer to reseal any plastic bags that were cut open to facilitate applying the bar code label. Carefully repackage the primary container using the packaging provided and return the shipping carton to its original DOT compliant state. If the containment of the chemical has been compromised to the point where it cannot be resealed, obtain new packing materials from shipping and repackage the container properly to DOT regulations.

6.5.7 Seal the outside shipping carton with Green Text CMS packing tape if the required CMS information for entry into the database has been provided. Seal the outside shipping carton with Red Text "Action Required" packing tape if there is information missing and affix the Action Required form on the outside of the shipping carton or included it inside the carton. For a case of chemical container such as items that will go into stock write the CMS bar code numbers on the outside of the box. If a carton was opened and no container within that

carton required a bar code reseal the carton and place a CMS Evaluation sticker on it.

6.5.8 If the shipping carton is from an unfamiliar "manufacturer", proceed with caution. Experience has shown that chemical containers shipped from small companies, universities and individuals; tend not to be as well packaged as those from chemical manufacturers. Consider the use of a polyethylene tub as a secondary container when opening a shipping carton arriving from an unfamiliar source.

6.5.9 If a MSDS is included with the shipment, the CMS Team is authorized to remove the MSDS in order to make a photocopy of it. Based on the web availability of the manufactures MSDSs the CMS team may keep the original or keep a copy of all or part of the MSDS for processing into the MSDS database. Mark the MSDS that is being returned to the user with a label that states that the MSDS will be entered into the BNL MSDS database.

6.5.10 If a container has been identified to contain a peroxide forming chemical as identified in the Chemical Hygiene Plan CMS list, attach a Peroxide Forming Compound Received sticker on the container and enter the received date.

6.6 **Inventorying in laboratory and Hazard Communication Areas: Prior** to inventory any chemicals, conduct a brief walk through of the area with the Contact Person or ES&H Coordinator to identify any hazards that may be encountered within the area.

6.6.1 **Lab Shelves, counter tops, wall cabinets:** Chemicals are typically stored in these areas that pose low to moderate hazard from volatility, reactivity, flammability and toxicity. Have the Contact Person identify any unusual hazards in the storage locations.

6.6.2 **Flammable Storage cabinets:** Chemicals are typically stored in these areas that pose a high flammability risk. Have the Contact Person identify any unusual hazards in the cabinet. Open the door in the presence of the Contact Person and have them verify that the status of the contents is safe and within their normal use condition (i.e. no odor, sign of spillage, inadequate shelving).

6.6.3 **Refrigerators/Freezers**: Chemicals are typically stored in a refrigerator/freezer to prevent them from degrading, to reduce the vapor pressure of volatile chemicals, and/or to attenuate their reactivity.

6.6.3.1 Have the Contact Person verify the safety in opening freezers and refrigerators.

6.6.3.2 Open the door in the presence of the Contact Person and have them verify that the status of the contents is safe and within their normal use condition (i.e. no odor or sign of spillage).

6.6.3.3 Minimize the time a chemical container is outside of the refrigerator/freezer or the amount of time that the refrigerator/freezer is left open.

6.6.3.4 If a large number of chemicals are present, take them out in small groups and close the door of the refrigerator/freezer to keep the remaining items cold. If practical, transfer them to hood and handle and bar code with exhaust ventilation protection.

6.6.3.5 If the chemical containers are in secondary containment, remove them from the refrigerator/freezer in the secondary containment. If the air outside the refrigerator is moist, condensation may form on the chemical container and this will increase the chance that the container could be dropped.

6.6.3.6 The bar code labels do not adhere well to containers with condensation on the outside. To remedy this, wipe the area where the bar code label will be placed with a paper towel just before it is applied. Apply cellophane tape over the bar code label and completely around the bottle to secure it.

6.6.4 **Desiccators:** Chemicals are stored in a desiccator because they are moisture-sensitive. Moisture may either cause the chemical to degrade and/or cause an unwanted reaction. Some desiccators are under a vacuum and cannot be opened without equalizing the pressure.

6.6.4.1 Always get approval from the Contact Person prior to opening a desiccator. Have the Contact Person verify the safety in opening the desiccator and open the desiccator.

6.6.4.2 Have the Contact Person verify that the status of the contents is safe and within their normal use condition (i.e. no odor or sign of spillage).

6.6.4.3 Homemade desiccators are usually comprised of several small chemical containers placed inside a larger jar that contains silica gel or drying agent. Sometimes the caps and necks of the chemical containers will be wrapped with Parafilm. This level of containment is usually an indication that the chemicals are moisture-sensitive, volatile, or have a stench, so proceed with caution. If it is necessary to open the homemade desiccator to inventory and bar code the chemical containers, it may be advisable to

open the desiccator in a hood.

6.7 **Emergencies resulting from bar coding**: In the case of an unknown broken or leaking container or where it is known that there is a potential for a chemical exposure:

6.7.1 **Stop work on bar coding the package**. If you can safely do so, place the package in secondary containment such as the CMS Nalgene work tray, plastic bag, glass or plastic jar or a spill containment pallet. If the MSDS is available take it with you. Do not take in any action that would place you or coworkers at risk for exposure.

6.7.2 Notify coworkers and leave the area.

6.7.3 Notify supervising personnel at the building that a broken or leaking chemical container condition exists.

6.7.4 Notify BNL Emergency Services Division

- If the container poses an immediate hazard to personnel in the area or the environment, summon assistance from BNL Emergency Services Division (x-2222).
- If the container poses a minimal hazard to personnel in the area or the environment, summon assistance from BNL Emergency Services Division (x-2238).

6.7.5 Alert the CMS team manager or an IH Group Industrial Hygienist for advice on further action. Assist in the response and help obtain the MSDS for the chemical.

7.0 Implementation and Training

Worker Qualification: CMS Team member must be trained to the requirements of a CMS Field Team Member (HP-77) as documented in the Brookhaven Training Management System (BTMS) and IH50300. Prior to using this procedure, the user is to complete:

7.1 Other appropriate training for the area to be entered (check with ESH coordinator or FS representative for the facility).

7.2 OT&Q Training and a medical surveillance required for any PPE used on the job or for other hazards encountered in the work area.

7.3 Qualification on this procedure on at least a 3 year basis, providing the professional uses the equipment several times per year. Personnel are to document their training using the Attachment 9.4 with its *Job Performance Measure Completion Certificate*.

7.4 The training module *CMS Safety Hazards in CMS Barcoding Activities*, or have equivalent education.

8.0 References

8.1 Handbook on Chemical Use in Laboratories

9.0 Attachments

9.1 CMS Trackable Chemicals and Chemical Products
9.2 Sample Bar Code Labels
9.3 Example of the CMS New Chemical Container Data Form
9.4 Job Performance Measure- Completion Certificate
9.5 SHSD Environmental Evaluation: Coding of Chemicals at Receiving Warehouse

BROOKHAVEN NATIONAL LABORATORY Safety & Health Services Division **INDUSTRIAL HYGIENE GROUP** Standard Operating Procedure	NUMBER **IH77200**
	REVISION **FINAL Rev8**
SUBJECT: CHEMICAL MANAGEMENT SYSTEM **Chemical Inventory Protocol: Field Application of Bar Codes to Containers**	DATE **01/27/11**
	PAGE **11** OF 18

10.0 Documentation

Document Development and Revision Control Tracking		
PREPARED BY: *(signature/date on file)* R. J. Petricek 03/12/01 Author	**REVIEWED BY:**	**APPROVED BY:** *(signature/date on file)* R. Selvey 04/30/01 IH Group Leader
ESH Coordinator/ Date: *none*	Work Coordinator/ Date: *none*	SHSD Manager / Date *none*
QA Representative / Date: *none*	Training Coordinator / Date: *none*	Filing Code: **IH52.05**
Facility Support Rep. / Date: *none*	Environ. Compliance Rep. / Date: *none*	Effective Date: **04/30/01**
ISM Review - Hazard Categorization ☐ High ☒ Moderate ☐ Low/Skill of the craft	Validation: ☐ Formal Walkthrough ☐ Desk Top Review ☒ SME Review Name / Date: R. Selvey during JRA. 04/04/05	IMPLEMENTATION: Training Completed: Tracked in SBMS Procedure posted on Web: 05/23/07 Hard Copy files updated: 05/21/37 Document Control: 05/21/07

Revision Log
Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above Section/page and Description of change: **Rev 1:** Add clarification on Hazard Assessment in relation to refrigerator/freezers & Desiccators, spills. SME Reviewer/Date: R. Selvey 10/12/01 *(signature on file)*
Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above Section/page and Description of change: **Rev 2:** Revised to add Section 7 Implementation and Training. Text added to Section 2, 4,5, 6, and 7. JRA and JPM added as Attachments 9.3.and 9.4. SME Reviewer/Date: R. Selvey 03/30/05 *(signature on file)*
Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above Section/page and Description of change: Section 4.2 added PPE for dry ice. Updated Section 5 for clarity. Extensive updating to section 6 to reflect changes in operations and clarification of actions. New training is to be conducted . Included changes recommended by team members review of Rev2. SME Reviewer/Date: R. Petricek 8/16/2005 *(signature on file)*
Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above Section/page and Description of change: **Rev 4:** Minor modifications to Section 7.4 and 5.7. Updated Attachment 9.5 JPM to correct a few errors and add the Chemical Safety module. SME Reviewer/Date: R. Selvey 12/02/05 *(signature on file)*
Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above Section/page and Description of change: **Rev 5:** Added document control to Attachment 9.4.. Delete JRA example as an Attachment. SME Reviewer/Date: R. Selvey 05/21/07 *(signature on file)*

BROOKHAVEN NATIONAL LABORATORY Safety & Health Services Division **INDUSTRIAL HYGIENE GROUP** Standard Operating Procedure	NUMBER **IH77200**
	REVISION **FINAL Rev8**
SUBJECT: CHEMICAL MANAGEMENT SYSTEM **Chemical Inventory Protocol:** **Field Application of Bar Codes to Containers**	DATE **01/27/11**
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Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls
Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above
Section/page and Description of change: **Rev 6:** Replaced Attachment 9.3 with a revised version.
SME Reviewer/Date: R. Petricek 05/23/07 *(signature on file)*

Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls
Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above
Section/page and Description of change: Rev 7: Added Attachment 9.5. SME Reviewer/Date: R. Selvey 02/09/09 *(signature on file)*

Purpose: ☐ Temporary Change ☐ Change in Scope ☐ Periodic review ☒ Clarify/enhance procedural controls
Changed resulting from: ☐ Environmental impacts ☐ Federal, State and/or Local requirements ☐ Corrective/preventive actions to non-conformances ☒ none of the above
Section/page and Description of change: Rev8: Update PPE information. Added static inventory cylinder collar step. Added low hazard spill contact info. SME Reviewer/Date: R. Selvey 02/09/09 *(signature on file)*

ATTACHMENT 9.1

CMS Trackable Chemicals and Chemical Products

What is entered into the CMS Database?

Some materials that ARE considered trackable chemicals or "chemical products" for the purposes of the CMS inventory and require containers to be individually bar coded for inclusion in the inventory include the following:

Laboratory reagents	Dyes and stains
Solvents	Abrasive blasting agents
Liquid scintillation counting cocktail	Metal plating solutions
Photographic chemicals	Compressed gases*
Epoxy resin/hardener	Chemical kits**

* Compressed gases in lecture bottles or other small cylinders are individually bar coded, all other compressed gas cylinders are usually tracked as static inventory.

** Chemicals in kit form are not excluded from the inventory; they are generally recorded in the database under the kit name.

Example

See CMS web page for current version of this list

Some materials that are considered chemical products for the purposes of the CMS inventory and that require inclusion (usually under the static inventory designation and therefore NOT individually bar coded) in the inventory include the following:

Corrosive cleaning agents	"ZEP"- and other cleaning type products
Oils, lubricants and greases	Water treatment chemicals
Paints and lacquers	Compressed gases (except lecture bottles and
Soldering pastes and fluxes	similar small cylinders)
Layout fluids	Vacuum pump fluid
PVC pipe primers and cements	Pesticides
Degreasers	

ATTACHMENT 9.1 (Continued)

What is NOT entered into the CMS Database?

Some materials that are NOT considered trackable chemicals or "chemical products" for the purposes of the CMS inventory include the following:

Personal items for personal use Food or food additives (unless it will be used for R&D or operational purpose) Structural material and articles Normal office supplies (small quantities for office administrative purposes) Biological materials (including reproducing biological organisms such as bacteria, viruses, fungi, yeast, plant or animal tissues)	**Pharmaceuticals, medication, including veterinary medicine** Blood or blood products Enzymes and hormones Buffer solutions Growth media Batteries Photographic film

Example

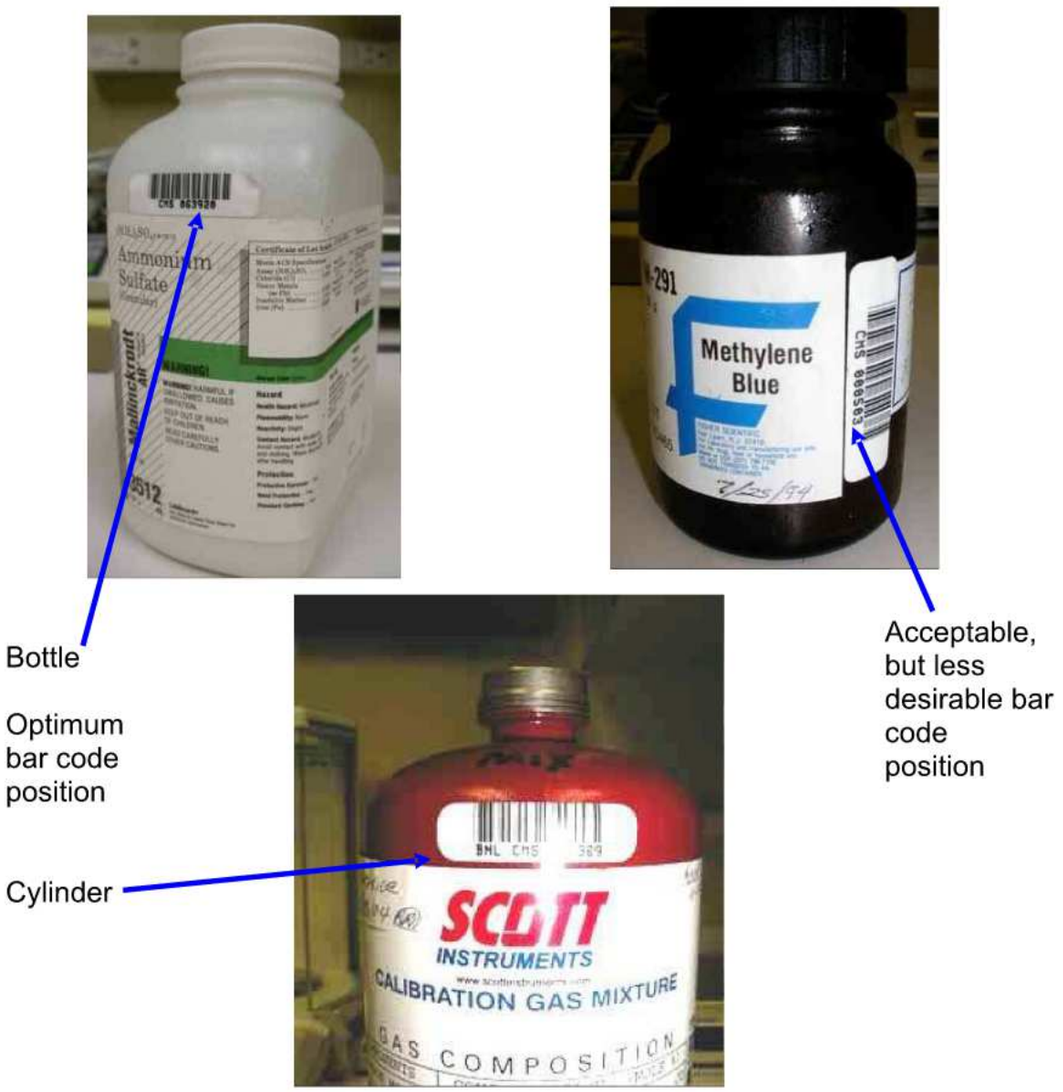
See CMS web page for current version of this list

Other materials that are NOT entered into the CMS Database:

Chemical waste
Chemical containers with incomplete or illegible information
Empty chemical containers
Secondary containers, working solutions, dilutions
Consumer products when ordered/present in consumer quantities and used as appropriate
Examples: Hand cleaners, hand lotions, soaps, detergents, bleach, abrasive cleansers, and aerosol cans
Research samples
Radiological sources, chemicals, & waste

ATTACHMENT 9.2

Sample Bar Code Label Placement



CMS New Chemical Container Data Form

IH 77200 Attachment 9.3

DATE:

Bar Codes: To

R A	ORG	BLDG	ROOM	LOCATION	PERSON / LIFE #	PO #	BARCODE	CHEM NAME /DESCRIPTOR (EXACTLY AS LABEL)
	BO MO CO LS PE PM	Unknown	Unknown	Unknown	Unknown	CC		**Descriptor** Cat #:
					CAS #: Solid Liq Gas Pwdr Gran Unkn			

COMMENTS (HAZARDS)	CONC.(%)	CONT. SIZE	CONT. TYPE	MANUFACTURER (ADDRESS IF NEW)	EXP.
Toxic Poison Irritant Hrmfl if Swallow Corrosive Flammable Required Action Issued			glass plastic cyl Can S Drum	Aldrich Sigma Roche JT Baker Mallinck Fisher S Alfa Aesar Fluka Baker Flda Cirt Supelco AppBio Gelest	

R A	ORG	BLDG	ROOM	LOCATION	CHEM NAME /DESCRIPTOR (EXACTLY AS LABEL)
	BO MO CO LS	Unknown	Unknown	Unknown	**Descriptor** Cat #:

COMMENTS (HAZARDS)	CONC. (%)	CONT. SIZE	CONT. TYPE	MANUFACTURER (ADDRESS IF NEW)	EXP.
Toxic Poison Irritant Hrmfl if Swallow Corrosive Flammable Required Action Issued			glass plastic cyl Can S Drum P Drum Unknown/OP	Aldrich Sigma Roche JT Baker Mallinck Fisher S Alfa Aesar Fluka Baker Flda Cirt Supelco AppBio Gelest	

R A	ORG	BLDG	ROOM	LOCATION	PERSON / LIFE #	PO #	BARCODE	CHEM NAME /DESCRIPTOR (EXACTLY AS LABEL)
	BO MO CO LS	Unknown	Unknown	Unknown	Unknown	CC		**Descriptor** Cat #:
					CAS #: Solid Liq Gas Pwdr Gran Unkn			

COMMENTS (HAZARDS)	CONC. (%)	CONT. SIZE	CONT. TYPE	MANUFACTURER (ADDRESS IF NEW)	EXP.
Toxic Poison Irritant Hrmfl if Swallow Corrosive Flammable Required Action Issued			glass plastic cyl Can S Drum P Drum unknown/OP	Aldrich Sigma Roche JT Baker Mallinck Fisher S Alfa Aesar Fluka Baker Flda Cirt Supelco AppBio Gelest	

BROOKHAVEN NATIONAL LABORATORY

HP-IHP-77200

IH 77200 Attachment 9.4

Environmental, Safety, Health & Quality Directorate
SHSD Industrial Hygiene

CMS Team Field Work

Job Performance Measure (JPM) Completion Certificate

Candidate's Name	Life Number:

Practical Skill Evaluation: Demonstration of Knowledge of the Methodology

Criteria	Qualifying Performance Standard	Unsat.	Recov.	Satisf.
1. Hazard Analysis	Understands the need to request a hazard analysis of non-routine areas or non-routine bar-coding activities to determine the potential exposure to the self and workers in the area. Reviews the JRA and FRA for routine CMS work.			
2. Personal Protective Equipment	Understands the need to be aware of hazards in the area and hazards from barcoding. Has knowledge of the potential for surface contamination, airborne levels of contaminants, radiological hazards, and noise hazards. Knows how to determine the need for PPE. Knows the proper PPE for bar coding.			
3. Bar Code Equipment	Knows where equipment needed for the procedure is located and how to use it.			
4. Chemical Safety	Attends or reviews the *Chemical Safety for the CMS Team* module or has equivalent education training.			

Practical Skill Evaluation: Demonstration of Methodology

Criteria	Qualifying Performance Standard	Unsat.	Recov.	Satisf.
1. Determining safe conditions	Demonstrates knowledge in reading container label information and can determine if the container can be handled safely. Knows to seek the advice of a cognizant person (Chemical SME or container owner) when hazards or safe handling method is unknown.			
2. Conducts bar coding	Demonstrates knowledge in applying bar codes to the appropriate portion of the bottle.			
3. Documentation	Demonstrates correctly filling out CMS forms, transfers appropriate info to CMS databases.			

I accept the responsibility for performing this task as demonstrated within this JPM and the corresponding SOP.

Candidate Signature:	Date:

I certify the candidate has satisfactorily performed each of the above listed steps and is capable of performing the task unsupervised.

Evaluator Signature:	Date:

SHSD Environmental Evaluation
Chemical Management System-
Coding of Chemicals at Receiving Warehouse

Operation Description: On a daily basis the CMS team goes to the PPM Receiving Warehouse to record and bar code chemical shipments. Chemical containers are not opened but outer packaging may be opened to place a bar code sticker on chemical containers. The chemical container is not opened and no chemicals are release during the bar coding process. Emergency Response will be activated, if in the course of this work,

- A container is broken by a CMS member or
- A CMS or PPM member observes a package with signs of leakage.

Frequency of Operation: Daily, every scheduled M-F of the year.

Environmental impact:

A leaking or broken container could injure CMS worker, PPM worker, or the environment.

In case of spill or release causing a significant risk to workers or the environment, the CMS team member will:

- Warn other personnel in the area,
- Call 911 to initiate the emergency response team, and
- Notify the PPM supervisor.

In case of minor leakage (such as found cap loose or box or packing is wet), the CMS team member will:

- Notify the Emergency Services Division Supervisor on watch for a tailored response to the incident and
- Notify the PPM supervisor.
- If it can be done safely, isolate the leaking or broken container and place it in a secondary container.

Waste Disposal:

This operation does not generate chemical waste.

PPE (disposable gloves) are not typically contaminated and are disposed in the regular trash. If contaminated during a leak or spill, dispose of PPE as per EWMSD instruction.